

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 1 City/County: Arlington Sampling Date: November 24, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 01-WTL-01-wet
 Investigator(s): M. Rockwell & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.86641 Long: -77.044998 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex, 2 to 15 percent slopes NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	

Remarks: **This is a tidally influenced fringe wetland located east of Roaches Run Waterfowl Sanctuary and west of the railway. Due to access restrictions, a wetland datapoint was not able to be taken.**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	_____ Surface Soil Cracks (B6)
_____ Surface Water (A1)	_____ Sparsely Vegetated Concave Surface (B8)
_____ High Water Table (A2)	_____ Drainage Patterns (B10)
_____ Saturation (A3)	_____ Moss Trim Lines (B16)
_____ Water Marks (B1)	_____ Dry-Season Water Table (C2)
_____ Sediment Deposits (B2)	_____ Crayfish Burrows (C8)
_____ Drift Deposits (B3)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Algal Mat or Crust (B4)	_____ Geomorphic Position (D2)
_____ Iron Deposits (B5)	_____ Shallow Aquitard (D3)
_____ Inundation Visible on Aerial Imagery (B7)	_____ FAC-Neutral Test (D5)
_____ Water-Stained Leaves (B9)	_____ Sphagnum moss (D8) (LRR T, U)
_____ Aquatic Fauna (B13)	
_____ Marl Deposits (B15) (LRR U)	
_____ Hydrogen Sulfide Odor (C1)	
_____ Oxidized Rhizospheres on Living Roots (C3)	
_____ Presence of Reduced Iron (C4)	
_____ Recent Iron Reduction in Tilled Soils (C6)	
_____ Thin Muck Surface (C7)	
_____ Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface water present? Yes _____ No <u>X</u> Depth (inches): _____	
Water table present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Due to access restrictions, a wetland datapoint was not able to be taken. This wetland is located east of Roaches Run Waterfowl Sanctuary.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **01-WTL-01-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across all Strata: 0 (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet
 Total % Cover of: _____ Multiply by: _____
 OBL species 0 x 1 = 0
 FACW species 0 x 2 = 0
 FAC species 0 x 3 = 0
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column totals 0 (A) 0 (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 -Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).
Due to access restrictions, a wetland datapoint was not able to be taken; however, typical wetland vegetation in this region includes: green ash, black willow, silky dogwood, and bush honeysuckle.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks: **Due to access restrictions, a soil core was not obtained. The soils fall within the following map unit: Urban land-Udorthents complex, 2 to 15 percent slopes. Udorthents are loamy clayey soils common along highways and side slopes.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 01-WTL-01-wet

Project/Site: DC2RVA-Area 1

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	3	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	3	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	3	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	4	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	4	

Total Score 19

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



01-WTL-01-wet Wetland fringe vegetation.



01-WTL-01-wet Roaches Run Waterfowl Sanctuary adjacent to wetland; 21-WTL-01-wet in the distance.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 1 City/County: Fredericksburg/Stafford Sampling Date: November 24, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 01-WTL-01-upl
 Investigator(s): M. Rockwell & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): CSX ballast toe Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): LRR: S, MLRA: 133A Lat: 38.866573 Long: -77.04535 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex, 2 to 15 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Due to access restrictions, an upland datapoint was not able to be taken. The upland point associated with 1-WTL-01, is adjacent to the railroad ballast.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Due to access restrictions, an upland datapoint was not able to be taken. The upland point associated with 1-WTL-01, is adjacent to the railroad ballast. Soils/gravel along the railroad ballast are typically well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **01-WTL-01-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>0</u>	(A) <u>0</u> (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).
Due to access restrictions, an upland datapoint was not able to be taken; however, typical upland vegetation along the railway includes: foxtail, Solidago spp., Lespedeza spp., Lonicera japonica, and mullein.

SOIL

Sampling Point: 01-WTL-01-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Due to access restrictions, a soil core was not obtained. The soils fall within the following map unit: Urban land-Udorthents complex, 2 to 15 percent slopes. Udorthents are loamy clayey soils common along highways and side slopes. This upland point is adjacent to the railway. Soils typically contain gravel/rock from the railway ballast and may be restrictive at a shallow depth.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: November 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-01-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ditch Local relief (concave, convex, none): Concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.805939 Long: -77.090908 Datum: NAD-1983
 Soil Map Unit Name: Urban land NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a low quality railroad ditch wetland. It is dominated by narrowleaf cattail and phragmites. Adjacent culverts bring runoff to the area. Field sheet 02AWTL04 wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area receives runoff from culverts to the north that provide stormwater runoff.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-01-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Ulmus americana</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>100</u> x 1 = <u>100</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>6</u> x 3 = <u>18</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>106</u> (A) <u>118</u> (B) Prevalence Index = B/A = <u>1.11</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>none</u>					Hydrophytic Vegetation Indicators: <u>1</u> -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50% <input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0 _____ Problematic Hydrophytic Vegetation ¹ (Explain)
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Leersia oryzoides</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>		Hydrophytic vegetation present? Yes <u>X</u> No _____
2 <u>Typha angustifolia</u>	<u>20</u>	<u>N</u>	<u>OBL</u>		
3 <u>Bidens connata</u>	<u>10</u>	<u>N</u>			
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>110</u> = Total Cover 50% of total cover <u>55</u> 20% of total cover: <u>22</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Vitis cinerea</u>	<u>1</u>		<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
<u>1</u> = Total Cover 50% of total cover <u>0.5</u> 20% of total cover: <u>0.2</u>					

Remarks: (If observed, list morphological adaptations below).
Shading wetland/in plot, but rooted in upland: *Catalpa speciosa*, *Robinia pseudoacacia*, *Ligustrum vulgare*.

SOIL

Sampling Point: **02-WTL-01-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3 / 1	100					loam	some fine sand present
8-12	10YR 3 / 1	95	2.5Y 6 / 1	5	C	PL/M	sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-01-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-01-wet Typical wetland view



02-WTL-01-wet Typical wetland view



02-WTL-01-wet Wetland soil core

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: November 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-01-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): _____ Slope (%): 15%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.805976 Long: -77.09086 Datum: NAD-1983
 Soil Map Unit Name: Urban land NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: Sample point is on well drained terrace above 02-WTL-04. Field Sheet 02AWTL04 upland.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Sloping area is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-01-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Catalpa speciosa</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2 <u>Albizia julibrissin</u>	<u>10</u>	<u>Y</u>		Total Number of Dominant Species Across all Strata: <u>5</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>20.00%</u> (A/B)
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>20</u> = Total Cover 50% of total cover <u>10</u> 20% of total cover: <u>4</u>				Prevalence Index worksheet
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____
1 <u>Lonicera maackii</u>	<u>33</u>	<u>Y</u>		OBL species <u>0</u> x 1 = <u>0</u>
2 <u>Ailanthus altissima</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	FACW species <u>3</u> x 2 = <u>6</u>
3 _____				FAC species <u>51</u> x 3 = <u>153</u>
4 _____				FACU species <u>31</u> x 4 = <u>124</u>
5 _____				UPL species <u>0</u> x 5 = <u>0</u>
6 _____				Column totals <u>85</u> (A) <u>283</u> (B)
7 _____				
8 _____				
<u>34</u> = Total Cover 50% of total cover <u>17</u> 20% of total cover: <u>6.8</u>				Prevalence Index = B/A = <u>3.33</u>
Herb Stratum (Plot Size: <u>5' radius</u>)				Hydrophytic Vegetation Indicators:
1 <u>Schedonorus arundinaceus</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation
2 <u>Unknown spp.</u>	<u>20</u>	<u>Y</u>		<input type="checkbox"/> 2 - Dominance Test is >50%
3 <u>Lonicera japonica</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0
4 <u>Elymus glaberrimus</u>	<u>5</u>	<u>N</u>		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5 <u>Solanum nigrum</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	
6 <u>Symphotrichum racemosum</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7 <u>Juniperus virginiana</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	Definitions of Four Vegetation Strata:
8 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
9 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11 _____				Woody vines - All woody vines greater than 3.28 ft in height.
12 _____				
<u>97</u> = Total Cover 50% of total cover <u>48.5</u> 20% of total cover: <u>19.4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Campsis radicans</u>	<u>1</u>		<u>FAC</u>	
2 <u>Cynanchum spp.</u>	<u>1</u>			
3 <u>Lonicera japonica</u>	<u>1</u>		<u>FACU</u>	
4 _____				
5 _____				
<u>3</u> = Total Cover 50% of total cover <u>1.5</u> 20% of total cover: <u>0.6</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-01-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 4 / 3	100					sandy loam	lot of rock in core

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Too much rock in core to get deeper than 8 inches. Soils are fill material from industrial areas to the north.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax Sampling Date: November 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-02-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.806635 Long: -77.094966 Datum: NAD-1983
 Soil Map Unit Name: Urban land NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a swale in the railroad ditch that has a variable boundary on the north margin, which extends in and out of the gas ROW. Area appears to remain saturated for long durations during the growing season. Field Sheet 02AWTL05 wetland.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>12"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring aerial photos, previous inspections), if available: well,

Remarks: **Area receives runoff from parking lot to the north. Appears to remain saturated for a long duration during the growing season.**

SOIL

Sampling Point: **02-WTL-02-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3 / 1	100					loam	
3-6	10YR 5 / 1	90	10YR 6 / 2	10			sandy clay loam	
6-12	10YR 5 / 6	90	10YR 6 / 1	10			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soil profile indicates reducing conditions and likely disturbance from railroad, gas ROW, and parking lot to the north.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-02-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-02-wet Typical wetland view



02-WTL-02-wet Wetland soil core



02-WTL-02-wet Adjacent upland

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax Sampling Date: November 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-02-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 3%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.806704 Long: -77.094965 Datum: NAD-1983
 Soil Map Unit Name: Urban land NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is the upland point near 02-WTL-05. It is well drained and has upland vegetation. Area receives runoff from the parking lot to the north. Field Sheet 02SWTL05 upland.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, photos, previous inspections), if available: aerial

Remarks: **Well drained portion of the gas ROW.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-02-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Robinia pseudoacacia</u>	<u>12</u>	<u>Y</u>	<u>UPL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u>	(A)
2 <u>Ailanthus altissima</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>9</u>	(B)
3 <u>Ulmus spp.</u>	<u>2</u>	<u>N</u>		Percent of Dominant Species that are OBL, FACW, or FAC: <u>22.22%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of: _____	Multiply by: _____
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>5</u> x 2 = <u>10</u>	
8 _____				FAC species <u>18</u> x 3 = <u>54</u>	
	<u>19</u> = Total Cover			FACU species <u>42</u> x 4 = <u>168</u>	
	50% of total cover <u>9.5</u>			UPL species <u>17</u> x 5 = <u>85</u>	
	20% of total cover: <u>3.8</u>			Column totals <u>82</u> (A) <u>317</u> (B)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>3.87</u>	
1 <u>Lonicera maackii</u>	<u>4</u>	<u>Y</u>		Hydrophytic Vegetation Indicators:	
2 <u>Rubus pensilvanicus</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
3 <u>Ulmus americana</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	<u> </u> 2 - Dominance Test is >50%	
4 _____				<u> </u> 3 - Prevalence Index is ≤3.0	
5 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
6 _____					
7 _____					
8 _____					
	<u>7</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>3.5</u>			Definitions of Four Vegetation Strata:	
	20% of total cover: <u>1.4</u>			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
1 <u>Unknown seedling</u>	<u>25</u>	<u>Y</u>		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2 <u>Schedonorus arundinaceus</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
3 <u>Solidago altissima</u>	<u>12</u>	<u>N</u>	<u>FACU</u>		
4 <u>Elymus glaberrimus</u>	<u>7</u>	<u>N</u>			
5 <u>Phleum pratense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
6 <u>Artemisia vulgaris</u>	<u>5</u>	<u>N</u>	<u>UPL</u>		
7 <u>Lonicera japonica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
8 <u>Symphotrichum lanceolatum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
9 _____					
10 _____					
11 _____					
12 _____					
	<u>79</u> = Total Cover				
	50% of total cover <u>39.5</u>				
	20% of total cover: <u>15.8</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Lonicera japonica</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic vegetation present? Yes _____ No <u>X</u>	
2 <u>Ampelopsis brevipedunculata</u>	<u>5</u>	<u>Y</u>			
3 <u>Clematis terniflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>		
4 _____					
5 _____					
	<u>20</u> = Total Cover				
	50% of total cover <u>10</u>				
	20% of total cover: <u>4</u>				

Remarks: (If observed, list morphological adaptations below).
25% of the herbaceous stratum consisted of an unknown seedling; an accurate identification was not able to be made due to the immature growth of the stem and cotyledon.

SOIL

Sampling Point: **02-WTL-02-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3 / 1	100					loam	lot of rock in core
2-6	10YR 5 / 2	100					sandy loam	
6-12	10YR 4 / 4	95	10YR 5 / 6	5			sand	rocky

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **This is a well drained area near the parking lot to the north.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax Sampling Date: November 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-03-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.801275 Long: -77.118058 Datum: NAD-1983
 Soil Map Unit Name: Urban land NWI classification: PEM/PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This drop box culvert wetland was likely created when the drop box culvert was installed in the creek downstream. It ponds water in the creek and makes the area saturated. A small side channel surrounds the wetland. Field Sheet 02AWTL01 wetland.	

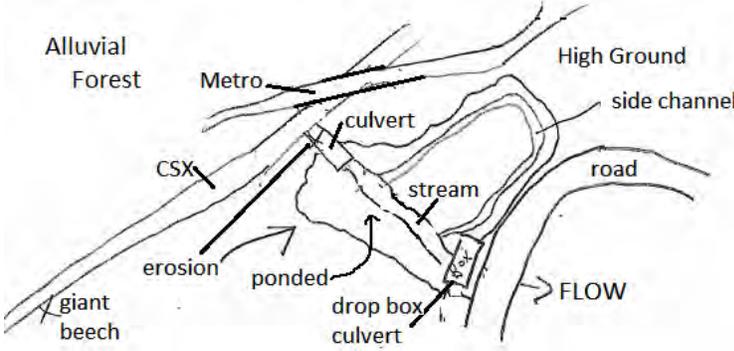
HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u>X</u> No <u> </u> Depth (inches): 14 inches Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): 10 inches (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



The diagram is a site map showing a stream flowing from the top right towards the bottom left. A 'drop box culvert' is shown crossing the stream. A 'side channel' branches off to the right of the main stream. Labels include 'Alluvial Forest' on the left, 'Metro' and 'CSX' lines above the stream, 'erosion' and 'ponged' areas near the culvert, and 'giant beech' on the far left. A 'road' is shown on the right side. An arrow labeled 'FLOW' indicates the direction of the stream. 'High Ground' is labeled on the right side of the stream.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-03-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer saccharinum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2 <u>Salix nigra</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
3 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u> (A/B)	
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>80</u> x 3 = <u>240</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>260</u> (B) Prevalence Index = B/A = <u>2.60</u>	
5 _____					
6 _____					
7 _____					
8 _____					
<u>100</u> = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>none</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1 <u>Fallopia japonica</u>	<u>60</u>	<u>Y</u>			
2 <u>Allium spp.</u>	<u>1</u>	<u>N</u>			
3 <u>Dioscorea oppositifolia</u>	<u>1</u>	<u>N</u>			
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>62</u> = Total Cover 50% of total cover <u>31</u> 20% of total cover: <u>12.4</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Ampelopsis brevipedunculata</u>	<u>15</u>	<u>Y</u>			
2 _____					
3 _____					
4 _____					
5 _____					
<u>15</u> = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>					

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-03-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3 / 2	98	10YR 5 / 6	2			silty clay loam	
4-10	10YR 4 / 4	100					sand	
10-14	2.5Y 6 / 1	100					sand	Very gray

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Although the soil value and chroma are indicative of redox dark surface, there is an apparent lack of redoximorphic features. It is likely that the dark organic matter within the soil is masking some of the concentrations that may be present.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-03-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-03-wet Drop box culvert



02-WTL-03-wet Typical view of wetland



02-WTL-03-wet Typical view of wetland



02-WTL-03-wet Culvert



02-WTL-03-wet Wetland soil sample

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax Sampling Date: November 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-03-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 10-30%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.801077 Long: -77.117987 Datum: NAD-1983
 Soil Map Unit Name: Urban land NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This well drained upland point is 15 feet higher than the drop box wetland. Field sheet 02WTL01 upland.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches):	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is well drained and sloping toward the wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-03-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Robinia pseudoacacia</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2 <u>Quercus rubra</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>7</u> (B)	
3 <u>Prunus serotina</u>	<u>7</u>	<u>N</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>42.86%</u> (A/B)	
4 <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
5 <u>Ailanthus altissima</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
6 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
7 _____					
8 _____					
Total Cover <u>47</u>					
50% of total cover <u>23.5</u>					
20% of total cover: <u>9.4</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet	
1 <u>Acer rubrum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Total % Cover of: _____ Multiply by: _____	
2 <u>Corylus americana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	OBL species <u>0</u> x 1 = <u>0</u>	
3 <u>Prunus serotina</u>	<u>7</u>	<u>N</u>	<u>FACU</u>	FACW species <u>5</u> x 2 = <u>10</u>	
4 <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	FAC species <u>75</u> x 3 = <u>225</u>	
5 <u>Rosa multiflora</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	FACU species <u>110</u> x 4 = <u>440</u>	
6 <u>Quercus rubra</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	UPL species <u>15</u> x 5 = <u>75</u>	
7 _____				Column totals <u>205</u> (A) <u>750</u> (B)	
8 _____					
Total Cover <u>43</u>					
50% of total cover <u>21.5</u>					
20% of total cover: <u>8.6</u>					
Prevalence Index = B/A = <u>3.66</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1 <u>Lonicera japonica</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	___ 1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Prunus serotina</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	___ 2 - Dominance Test is >50%	
3 _____				___ 3 - Prevalence Index is ≤3.0	
4 _____				___ Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
Total Cover <u>65</u>					
50% of total cover <u>32.5</u>					
20% of total cover: <u>13</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Four Vegetation Strata:	
1 <u>Smilax rotundifolia</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
2 <u>Campsis radicans</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
3 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
4 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
5 _____					
Total Cover <u>50</u>					
50% of total cover <u>25</u>					
20% of total cover: <u>10</u>					
				Hydrophytic vegetation present? Yes _____ No <u>X</u>	

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-03-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 4	98	10YR 5 / 6	2				

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Area is well drained and slightly eroded.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: November 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-04-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ditch Local relief (concave, convex, none): Concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.776899 Long: -77.156955 Datum: NAD-1983
 Soil Map Unit Name: Urban Land NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil X, or Hydrology significantly disturbed? Yes Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a poor quality railroad ditch wetland at the base of a retaining wall near Fleet Drive. The soils are borderline hydric. Wet areas and a dry ditch alternate as it flows to the south. Field Sheet: 03-A-WTL-01-WET (Railroad ditch wetland; base of retaining wall).	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>12</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Possible seep water from hillside cut under retaining wall. Also runoff in stormwater events.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-04-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) _____ ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Murdannia keisak</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Juncus effusus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Echinochloa crus-galli</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (If observed, list morphological adaptations below). Plants have mostly been killed by herbicide.				Hydrophytic vegetation present? Yes <u>X</u> No _____
				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.

SOIL

Sampling Point: **02-WTL-04-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 4 / 4		10YR 5 / 6				sand	
8-12	10YR 5 / 2		10YR 6 / 1				sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks: **Soils have been disturbed by railroad activities and are reducing. Professional judgement used to determine hydric soil status.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-04-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-04-wet Typical View of wetland along wall



02-WTL-04-wet Typical View of wetland along wall



02-WTL-04-wet Wetland soil core



02-WTL-04-wet Upland data point

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: November 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-04-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 12%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.77692 Long: -77.156771 Datum: NAD-1983
 Soil Map Unit Name: Urban Land NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is upland data point near the railroad ditch wetland 03-A-WTL-01. It is well drained, has upland plants, and does not have hydric soils. Field Sheet: 03-A-WTL-01-UPL (Railroad ditch).	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-04-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>2</u> x 4 = <u>8</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>2</u> (A) <u>8</u> (B) Prevalence Index = B/A = <u>4.00</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Juniperus virginiana</u>	<u>2</u>		FACU	
2				
3				
4				
5				
6				
7				
8				
_____ = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1 <u>Sericea lespedeza</u>	<u>90</u>	<u>Y</u>		
2 <u>Festuca arundinacea</u>	<u>5</u>	<u>N</u>		
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
_____ = Total Cover 50% of total cover <u>47.5</u> 20% of total cover: <u>19</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
1 <u>none</u>				
2				
3				
4				
5				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes _____ No <u>X</u>				

Remarks: (If observed, list morphological adaptations below).

This is in a dense stand of lespedeza.

SOIL

Sampling Point: 02-WTL-04-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 5 / 6	95	10YR 4 / 4	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Well drained soil. Area has been altered considerably during railroad and retaining wall construction.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: November 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-05-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ditch Local relief (concave, convex, none): convex Slope (%): 1%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.774709 Long: -77.157407 Datum: NAD-1983
 Soil Map Unit Name: Urban Land NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil X, or Hydrology significantly disturbed? Yes Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is the southern portion of a railroad ditch wetland. The soils are reducing in the ditch, but the matrix is not quite depleted to the point where it would be considered a depleted matrix. Since it is now the normal circumstance, and the soils are reducing, we do consider this to be a hydric soil condition. Field Sheet: 03-A-WTL-02-WET.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches) 12 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Railroad ditch wetland that appears to receive seep water from adjacent hillside and runoff.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-05-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Juniperus virginiana</u>	<u>1</u>		<u>FACU</u>	
2				
3				
4				
5				
6				
7				
8				
1 = Total Cover 50% of total cover <u>0.5</u> 20% of total cover: <u>0.2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Cyperus strigosus</u>	<u>65</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Andropogon virginicus</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Typha latifolia</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4 <u>Panicum dichotomiflorum</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5 <u>Echinochloa muricata</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
6 <u>Juniperus virginiana</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
7				
8				
9				
10				
11				
12				
117 = Total Cover 50% of total cover <u>58.5</u> 20% of total cover: <u>23.4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>10</u>	x 1 = <u>10</u>
FACW species <u>80</u>	x 2 = <u>160</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>3</u>	x 4 = <u>12</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>118</u> (A)	<u>257</u> (B)

Prevalence Index = B/A = 2.18

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Railroad ditch wetland frequently treated with herbicides. Few woody plants.

SOIL

Sampling Point: **02-WTL-05-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10Y 4 / 4	95	10YR 5 / 6				sand	a lot of ballast rock
6-10	10YR 5 / 3	95	10YR 6 / 8				sandy loam	
10-14	2.5Y 7 / 4	80	2.5Y 6 / 1				loam	a lot more gray soils

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No

Remarks: **Soils not depleted enough to check the depleted matrix box. However, soils are actively reducing. Area was degraded with somewhat recent railroad construction which adversely affected the soil profiles. Professional judgement used.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-05-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-05-wet Typical view of wetland



02-WTL-05-wet Typical view of wetland

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: November 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-05-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.774694 Long: -77.157417 Datum: NAD-1983
 Soil Map Unit Name: Urban Land NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is the upland data point that is moderately well drained. Field Sheet: 03-A-WTL-02-UPL.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches):	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Cut and/or fill site with sandy, gravelly dry soils and meadow vegetation.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-05-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>25</u> x 2 = <u>50</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>110</u> (A) <u>385</u> (B) Prevalence Index = B/A = <u>3.50</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Pyrus calleryana</u>	<u>1</u>			
2 <u>Pinus virginiana</u>	<u>1</u>			
3				
4				
5				
6				
7				
8				
50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Lespedeza cuneata</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Agrostis gigantea</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Schedonorus arundinaceus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4 <u>Centaurea maculosa</u>	<u>5</u>	<u>N</u>		
5 <u>Rubus spp.</u>	<u>2</u>	<u>N</u>		
6 <u>Pyrus calleryana</u>	<u>1</u>	<u>N</u>		
7				
8				
9				
10				
11				
12				
50% of total cover <u>59</u> 20% of total cover: <u>23.6</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u> </u> No <u> X </u>
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-05-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	5 / 6					sandy loam	a lot of rock and core

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: November 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-06-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.771665 Long: -77.158922 Datum: NAD-1983
 Soil Map Unit Name: Urban Land NWI classification: PEM/PSS

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This small depressional wetland may have been part of detention/retention basin at some point. It has not been maintained. Field Sheet: 03-A-WTL-02-WET #2.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This small depressional area appears to remain saturated for long durations during the growing season. It may have been a retention basin at some point.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-06-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>5</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>60</u>	x 1 = <u>60</u>
7 _____				FACW species <u>20</u>	x 2 = <u>40</u>
8 _____				FAC species <u>45</u>	x 3 = <u>135</u>
	<u>0</u> = Total Cover			FACU species <u>5</u>	x 4 = <u>20</u>
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>		UPL species <u>0</u>	x 5 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>130</u>	(A) <u>255</u> (B)
1 <u>Salix babylonica</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index = B/A = <u>1.96</u>	
2 <u>Rubus pensilvanicus</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators:	
3 <u>Pyrus calleryana</u>	<u>5</u>	<u>Y</u>		<u>1</u> -Rapid Test for Hydrophytic Vegetation	
4 _____				<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
5 _____				<input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8 _____				Definitions of Four Vegetation Strata:	
	<u>25</u> = Total Cover			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
	50% of total cover <u>12.5</u>	20% of total cover: <u>5</u>		Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
1 <u>Juncus effusus</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
2 <u>Arthraxon hispidus</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
3 <u>Eleocharis tenuis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
4 <u>Typha latifolia</u>	<u>5</u>	<u>N</u>	<u>OBL</u>		
5 <u>Solidago altissima</u>	<u>3</u>	<u>N</u>	<u>FACU</u>		
6 <u>Lythrum salicaria</u>	<u>3</u>	<u>N</u>	<u>OBL</u>		
7 <u>Lonicera japonica</u>	<u>2</u>	<u>N</u>	<u>FACU</u>		
8 <u>Mimulus ringens</u>	<u>2</u>	<u>N</u>	<u>OBL</u>		
9 _____					
10 _____					
11 _____					
12 _____					
	<u>110</u> = Total Cover				
	50% of total cover <u>55</u>	20% of total cover: <u>22</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-06-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	2.5Y 6 / 1	95	10YR 5 / 8	5			sandy loam	
6-10	10YR 5 / 2	100					sandy loam	
10-14	10YR 4 / 4	95	10YR 5 / 6	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils very gray on the surface but transition to high chroma at deeper points.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-06-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.		

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-06-wet Edge of wetland captured in lower left hand corner of photograph, light/dried herbaceous grasses



02-WTL-06-wet Typical view of wetland



02-WTL-06-wet Upland sample point

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: November 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-06-upl
 Investigator(s): Team A - L. Eggering & W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): small depression Local relief (concave, convex, none): concave Slope (%): 13%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.771719 Long: -77.158969 Datum: NAD-1983
 Soil Map Unit Name: Urban Land NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is the well drained area starting to slope toward the tracks. It is west of the 03-A-WTL-02 wetland. Field Sheet: 03-A-WTL-02-UPL #2.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area slopes towards the tracks and is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-06-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>91</u> x 4 = <u>364</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>91</u> (A) <u>364</u> (B) Prevalence Index = B/A = <u>4.00</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Rubus cuneifolius</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Juniperus virginiana</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	
3 <u>Pyrus calleryana</u>	<u>2</u>	<u>N</u>		
4 <u>Prunus pensylvanica</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
5				
6				
7				
8				
50% of total cover <u>10.5</u> 20% of total cover: <u>4.2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Schizachyrium scoparium</u>	<u>33</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Sorghastrum nutans</u>	<u>33</u>	<u>Y</u>	<u>FACU</u>	
3 <u>Juniperus virginiana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4 <u>Elymus glaberrimus</u>	<u>1</u>	<u>N</u>		
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>36</u> 20% of total cover: <u>14.4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Lonicera japonica</u>	<u>1</u>		<u>FACU</u>	
2				
3				
4				
5				
50% of total cover <u>0.5</u> 20% of total cover: <u>0.2</u>				

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-06-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	5 / 6					sandy loam	some scouring near core

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **This is an upland soil that is eroding.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 30, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-07-wet
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.770295 Long: -77.160162 Datum: NAD-1983
 Soil Map Unit Name: Urban Land NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Located in a depression near office/industrial areas on hill. Field Sheet: 03-C-WTL-12-WET.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): Water table present? Yes <u>X</u> No <u> </u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology present. Wetland feeds 03-C-STR-16.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-07-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Leersia oryzoides</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Typha latifolia</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3 <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).

Rice cutgrass is very dominant.

SOIL

Sampling Point: **02-WTL-07-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	2.5Y 4 / 2	95	2.5YR 5 / 8	5			sandy loam	fine
3-6	2.5Y 5 / 2	95	2.5YR 5 / 8	5			sandy loam	fine
6-10	5Y 5 / 1	90	5YR 5 / 8	10			sandy loam	
10-15	5Y 6 / 1	95	7.5YR 5 / 8	5			sandy loam	coarse

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Small gravelly pebble associated with 10-15 inch depth. Soils showing signs of long term saturation.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-07-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-07-wet Typical view of wetland



02-WTL-07-wet Typical view of wetland



02-WTL-07-wet Typical view of wetland



02-WTL-07-wet Wetland soil core



02-WTL-07-wet Upland data point



02-WTL-07-wet Upland soil core

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 30, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-07-upl
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): _____
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.770118 Long: -77.160343 Datum: NAD-1983
 Soil Map Unit Name: Urban Land NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: Upland point on hillside that is moderately well drained. Field Sheet: 03-C-WTL-12-UPL.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-07-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>7</u> x 3 = <u>21</u> FACU species <u>73</u> x 4 = <u>292</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>313</u> (B) Prevalence Index = B/A = <u>3.91</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Juniperus virginiana</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2				
3				
4				
5				
6				
7				
8				
30 = Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1 <u>Schizachyrium scoparium</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Sorghastrum nutans</u>	<u>8</u>	<u>Y</u>	<u>FACU</u>	
3 <u>Andropogon virginicus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4 <u>Juniperus virginiana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5 <u>Rubus spp.</u>	<u>5</u>	<u>N</u>		
6 <u>Solidago spp.</u>	<u>5</u>	<u>N</u>		
7 <u>Elymus virginicus</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
8 <u>Moss spp.</u>	<u>2</u>	<u>N</u>		
9				
10				
11				
12				
62 = Total Cover 50% of total cover <u>31</u> 20% of total cover: <u>12.4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
1 <u>none</u>				
2				
3				
4				
5				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-07-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-6	10YR 5 / 3	100					sandy loam	fine
6-8	7.5YR 5 / 8	90	10YR 5 / 3	10			clay	
8-12	10YR 5 / 3	100					sandy loam	coarse

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X** _____

Remarks: **Gravelly at the bottom.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 29, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-08-wet
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1-2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.761365 Long: -77.173630 Datum: NAD-1983
 Soil Map Unit Name: Sassafras-Marumsc complex, 15 to 25 percent slopes NWI classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a small depression at the base of the railroad and access road fill. Field Sheet: 03-C-WTL-11-WET.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1) <u>X</u>	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2) <u> </u>	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3) <u> </u>	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1) <u> </u>	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2) <u>X</u>	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3) <u> </u>	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4) <u> </u>	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5) <u> </u>	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u>	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13) <u> </u>	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U) <u> </u>	
<u> </u> Hydrogen Sulfide Odor (C1) <u> </u>	
<u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u>	
<u> </u> Presence of Reduced Iron (C4) <u> </u>	
<u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u>	
<u> </u> Thin Muck Surface (C7) <u> </u>	
<u> </u> Other (Explain in Remarks) <u> </u>	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Appears to be poorly drained area. Probably receives seep water.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-08-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Salix nigra</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Panicum spp.</u>	<u>50</u>	<u>Y</u>		
2 <u>Scirpus cyperinus</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Eupatorium spp.</u>	<u>20</u>	<u>N</u>		
4 <u>Ludwigia spp.</u>	<u>15</u>	<u>N</u>		
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>62.5</u> 20% of total cover: <u>25</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-08-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	2.5Y 5 / 3	100					sandy loam	oxidized root channels
3-6	5Y 3 / 1	95	2.5YR 3 / 6				sandy clay	fine
6-15	2.5Y 3 / 1	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input checked="" type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: clay
 Depth (inches): 3-6

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-08-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 9

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-08-wet Typical view of wetland



02-WTL-08-wet Typical view of wetland



02-WTL-08-wet Wetland soil core

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 29, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-08-upl
 Investigator(s): Team C - J. Budnik & M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.761365 Long: -77.173681 Datum: NAD-1983
 Soil Map Unit Name: Sassafras-Marumsc complex, 15 to 25 percent slopes NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydic Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: This is the upland data point. Field Sheet: 03-C-WTL-11-UPL.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology indicators are not present, and the area is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-08-upl**

Tree Stratum	(Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1	<u>none</u>				
2					
3					
4					
5					
6					
7					
8					
		<u>0</u> = Total Cover			
		50% of total cover <u>0</u>	20% of total cover: <u>0</u>		
Sapling/Shrub Stratum	(Plot Size: <u>15' radius</u>)				
1	<u>none</u>				
2					
3					
4					
5					
6					
7					
8					
		<u>0</u> = Total Cover			
		50% of total cover <u>0</u>	20% of total cover: <u>0</u>		
Herb Stratum	(Plot Size: <u>5' radius</u>)				
1	<u>Ampelopsis brevipedunculata</u>	<u>95</u>	<u>Y</u>		
2	<u>Grass spp.</u>	<u>10</u>	<u>N</u>		
3	<u>Phytolacca americana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4	<u>Securigera varia</u>	<u>2</u>	<u>N</u>		
5					
6					
7					
8					
9					
10					
11					
12					
		<u>112</u> = Total Cover			
		50% of total cover <u>56</u>	20% of total cover: <u>22.4</u>		
Woody Vine Stratum	(Plot Size: <u>30' radius</u>)				
1	<u>none</u>				
2					
3					
4					
5					
		<u>0</u> = Total Cover			
		50% of total cover <u>0</u>	20% of total cover: <u>0</u>		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>5</u> (A)	<u>20</u> (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-08-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Disturbed, rocky soils. Crumbly, sandy, gravel. Soil auger refusal.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 29, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-09-wet
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Terrace/Depression Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.749999 Long: -77.180672 Datum: NAD-1983
 Soil Map Unit Name: Sassafras-Marumsc Complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a small depressional wetland in a gas pipeline ROW that ponds water for a long duration during the growing season. Field Sheet: 03-C-WTL-10-WET.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): Water table present? Yes <u>X</u> No <u> </u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area appears to get seep water that gets trapped due to a restrictive clay area. Some high spots intertwined with low spots.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-09-wet**

Tree Stratum	(Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1	<u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2					
3					
4					
5					
6					
7					
8					
		<u>0</u> = Total Cover			
		50% of total cover <u>0</u>	20% of total cover: <u>0</u>		
Sapling/Shrub Stratum	(Plot Size: <u>15' radius</u>)				
1	<u>none</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2					
3					
4					
5					
6					
7					
8					
		<u>0</u> = Total Cover			
		50% of total cover <u>0</u>	20% of total cover: <u>0</u>		
Herb Stratum	(Plot Size: <u>5' radius</u>)				
1	<u>Scirpus polyphyllus</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2	<u>Mentha spp. (see photo)</u>	<u>10</u>	<u>N</u>		
3	<u>Aster spp.</u>	<u>2</u>	<u>N</u>		
4	<u>Polygonum or Solidago (see photo)</u>	<u>2</u>	<u>N</u>		
5					
6					
7					
8					
9					
10					
11					
12					
		<u>104</u> = Total Cover			
		50% of total cover <u>52</u>	20% of total cover: <u>20.8</u>		
Woody Vine Stratum	(Plot Size: <u>30' radius</u>)				
1	<u>none</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____
2					
3					
4					
5					
		<u>0</u> = Total Cover			
		50% of total cover <u>0</u>	20% of total cover: <u>0</u>		

Remarks: (If observed, list morphological adaptations below).
Scirpus polyphyllus is very dominant.

SOIL

Sampling Point: **02-WTL-09-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-4	2.5Y	3 / 1	100					silt loam	
4-10	2.5Y	5 / 2	60	5YR	5 / 8	30		sandy clay	some gravel

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: clay
 Depth (inches): 4

Hydric soil present? Yes No

Remarks: **Disturbed pipeline corridor.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-09-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-09-wet Typical view of wetland



02-WTL-09-wet Typical view of wetland



02-WTL-09-wet Typical view of wetland



02-WTL-09-wet Wetland soil core



02-WTL-09-wet Upland data point



02-WTL-09-wet Upland soil core

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 29, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-09-upl
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 10%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.751702 Long: -77.179605 Datum: NAD-1983

Soil Map Unit Name: Sassafras-Marumsc Complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland area located in pipeline corridor adjacent to railroad. Field Sheet: 03-C-WTL-10-UPL.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology not present, area is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-09-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Quercus nigra</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)	
2 <u>Quercus alba</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>7</u> (B)	
3 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>71.43%</u> (A/B)	
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>112</u> x 3 = <u>336</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>142</u> (A) <u>456</u> (B) Prevalence Index = B/A = <u>3.21</u>	
5 _____					
6 _____					
7 _____					
8 _____					
<u>50</u> = Total Cover 50% of total cover <u>25</u> 20% of total cover: <u>10</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>Ulmus americana</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>50</u> = Total Cover 50% of total cover <u>25</u> 20% of total cover: <u>10</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Andropogon virginicus</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Cortaderia spp.</u>	<u>30</u>	<u>Y</u>			
3 <u>Lonicera japonica</u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
4 <u>Solidago spp.</u>	<u>5</u>	<u>N</u>			
5 <u>Smilax spp.</u>	<u>5</u>	<u>N</u>			
6 <u>Pinus virginiana</u>	<u>2</u>	<u>N</u>			
7 <u>Liquidambar styraciflua</u>	<u>2</u>	<u>N</u>	<u>FAC</u>		
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>84</u> = Total Cover 50% of total cover <u>42</u> 20% of total cover: <u>16.8</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-09-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 4	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Dark upper layer of organic matter.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 29, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-10-wet
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.747008 Long: -77.182394 Datum: NAD-1983
 Soil Map Unit Name: Urban Land NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a small RR ditch wetland. There is no upland point associated with this wetland; upland soils along the RR are typically well drained. Upland vegetation along the railway in this area typically consists of Solidago spp., Lonicera japonica, Andropogon virginicus, and Smilax spp. Field Sheet: 03-C-WTL-09-WET.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Water Marks (B1)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Geomorphic Position (D2)
<u> </u> Sediment Deposits (B2)	<u> </u> Shallow Aquitard (D3)
<u> </u> Presence of Reduced Iron (C4)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Drift Deposits (B3)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Iron Deposits (B5)	
<u> </u> Other (Explain in Remarks)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u> </u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): 0-2 Water table present? Yes <u>X</u> No <u> </u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Wetland located at the foot of the railroad berm/ballast hill slope.**

SOIL

Sampling Point: **02-WTL-10-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	2.5Y 3 / 1	95	2.5YR 4 / 8	5			sandy loam	fine
6-15	2.5Y 4 / 2	60	5YR 5 / 8	40			silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: clay
 Depth (inches): 6

Hydric soil present? Yes No

Remarks: **Hydric soils present.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-10-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-10-wet Typical view of wetland



02-WTL-10-wet Typical view of wetland



02-WTL-10-wet Typical view of wetland



02-WTL-10-wet Typical view of wetland



02-WTL-10-wet Wetland soil core

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-11-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Salix nigra</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) _____ ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Typha angustifolia</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Juncus effusus</u>	<u>30</u>	<u>N</u>	<u>OBL</u>	
3 <u>Rubus spp.</u>	<u>15</u>	<u>N</u>	_____	
4 <u>Carex spp. (see photos)</u>	<u>10</u>	<u>N</u>	_____	
5 <u>Chasmanthium spp.</u>	<u>10</u>	<u>N</u>	_____	
6 <u>Bidens spp.</u>	<u>5</u>	<u>N</u>	_____	
7 <u>Cyperus erythrorhizos</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
11 _____	_____	_____	_____	
12 _____	_____	_____	_____	
<u>165</u> = Total Cover 50% of total cover <u>82.5</u> 20% of total cover: <u>33</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Ampelopsis spp.</u>	<u>5</u>	<u>Y</u>	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____				
Remarks: (If observed, list morphological adaptations below).				

SOIL

Sampling Point: **02-WTL-11-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 3 / 2	100					silt loam	
3-12	10YR 3 / 2	90	5YR 4 / 6	10	C	PL/M	sandy clay loam	fine

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soil gets more sandy with increasing depth. Professional judgment used to determine hydric soil status.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-11-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 7

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-11-wet Typical view of ponded area of wetland



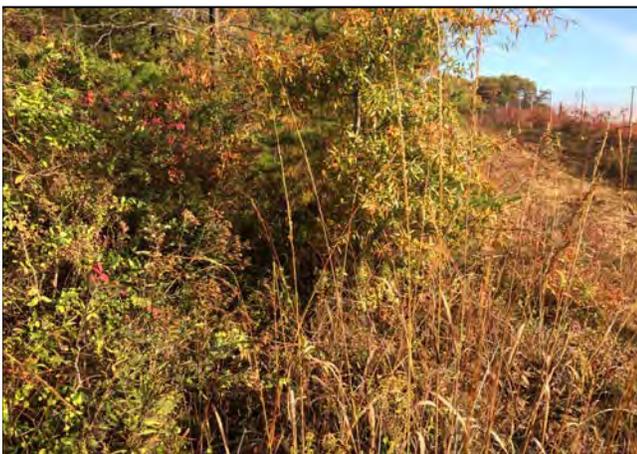
02-WTL-11-wet Typical view of wetland



02-WTL-11-wet Typical view of wetland



02-WTL-11-wet Wetland soil core



02-WTL-11-wet Upland data point



02-WTL-11-wet Upland soil core

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 29, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-11-upl
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 15%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.743360 Long: -77.183931 Datum: NAD-1983
 Soil Map Unit Name: Urban Land NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland point located on hillslope north of wet point. Field Sheet: 03-C-WTL-08-UPL.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches):	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Well drained upland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-11-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>4</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>25.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of: _____ Multiply by: _____	
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>20</u> x 2 = <u>40</u>	
8 _____				FAC species <u>10</u> x 3 = <u>30</u>	
	<u>0</u> = Total Cover			FACU species <u>57</u> x 4 = <u>228</u>	
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>		UPL species <u>5</u> x 5 = <u>25</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>92</u> (A) <u>323</u> (B)	
1 <u>Quercus phellos</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index = B/A = <u>3.51</u>	
2 <u>Pinus virginiana</u>	<u>20</u>	<u>Y</u>		Hydrophytic Vegetation Indicators:	
3 <u>Rhus copallinum</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
4 _____				<u>2</u> - Dominance Test is >50%	
5 _____				<u>3</u> - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____					
8 _____					
	<u>45</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>22.5</u>	20% of total cover: <u>9</u>		Definitions of Four Vegetation Strata:	
Herb Stratum (Plot Size: <u>5' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>Celastrus orbiculatus</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 <u>Lonicera japonica</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 <u>Andropogon virginicus</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
4 <u>Sorghastrum nutans</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
5 <u>Pinus virginiana</u>	<u>2</u>	<u>N</u>			
6 <u>Quercus alba</u>	<u>2</u>	<u>N</u>	<u>FACU</u>		
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>69</u> = Total Cover				
	50% of total cover <u>34.5</u>	20% of total cover: <u>13.8</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).

Upland vegetation.

Hydrophytic vegetation present? Yes _____ No X

SOIL

Sampling Point: **02-WTL-11-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 4	100					sandy loam	fine

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Soils have some type of black coal-ash mixture present.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 28, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-12-wet-1
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.724747 Long: -77.198272 Datum: NAD-1983
 Soil Map Unit Name: Codorus and Hatboro soils, 0 to 2 percent slopes, occasionally flooded NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland is adjacent to large pond complex in a depression between railroad and industrial complex. Field Sheet: 03-C-WTL-07-WET.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)	

Field Observations: Surface water present? Yes <u> </u> No <u> </u> Depth (inches): 0-5 Water table present? Yes <u>X</u> No <u> </u> Depth (inches): 0-2 Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Pond is part of the wetland, although not part of sampling point.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-12-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Cyperus erythrorhizos</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
3 <u>Leersia oryzoides</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____
Remarks: (If observed, list morphological adaptations below). Red root cyperus (<i>Cyperus erythrorhizos</i>) is very dominant.				

SOIL

Sampling Point: **02-WTL-12-wet-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-5	10YR 5 / 1	95	2.5YR 4 / 6	5			silt loam	
5-7	5Y 4 / 1	90	2.5YR 4 / 6	10			silty clay	
7-12+	5Y 4 / 1	95	5YR 4 / 6	5			silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Hydric soils present.**

WETLAND FUNCTIONS & VALUES FORM

Wetland
I.D.: 02-WTL-12-wet-1

Project/Si
te: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-12-wet-1 View from wetland toward railroad (ballast in the background).



02-WTL-12-wet-1 Typical view of ponded portion of wetland.



02-WTL-12-wet-1 View of wetland and buildings behind wetland, away from the railroad.



02-WTL-12-wet-1 Wetland soil core.



02-WTL-12-wet-1 Upland data point.



02-WTL-12-wet-1 Upland soil core.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 28, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-12-wet-2
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.724953 Long: -77.197797 Datum: NAD-1983
 Soil Map Unit Name: Codorus and Hatboro soils, 0 to 2 percent slopes, occasionally flooded NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes ___ No X (If no, explain in Remarks.)
 Are vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes X No ___
 Are vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___
Remarks: This is the bottomland hardwood portion of wetland 03-WTL-09. Field Sheet: 03-C-WTL-07-WET #2.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	___ Drainage Patterns (B10)
<u>X</u> Water Marks (B1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)	___ Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	___ FAC-Neutral Test (D5)
<u>X</u> Aquatic Fauna (B13)	___ Sphagnum moss (D8) (LRR T, U)
___ Marl Deposits (B15) (LRR U)	
___ Hydrogen Sulfide Odor (C1)	
___ Oxidized Rhizospheres on Living Roots (C3)	
___ Presence of Reduced Iron (C4)	
___ Recent Iron Reduction in Tilled Soils (C6)	
___ Thin Muck Surface (C7)	
___ Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No ___ Depth (inches): 1-2 Water table present? Yes <u>X</u> No ___ Depth (inches): Saturation present? Yes <u>X</u> No ___ Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No ___
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area has strong hydrology indicators.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-12-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u>	(A)
2 <u>Quercus palustris</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>6</u>	(B)
3 <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>57</u> x 2 = <u>114</u>	
8 _____				FAC species <u>57</u> x 3 = <u>171</u>	
	<u>65</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
	50% of total cover <u>32.5</u>	20% of total cover: <u>13</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>114</u> (A) <u>285</u> (B)	
1 <u>Lindera benzoin</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index = B/A = <u>2.50</u>	
2 <u>Carpinus caroliniana</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators:	
3 <u>Quercus phellos</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
4 _____				<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
5 _____				<input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8 _____					
	<u>45</u> = Total Cover			Definitions of Four Vegetation Strata:	
	50% of total cover <u>22.5</u>	20% of total cover: <u>9</u>		Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
1 <u>Carex spp. (see photos)</u>	<u>10</u>	<u>Y</u>		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2 <u>grass spp. (see photos)</u>	<u>5</u>	<u>Y</u>		Woody vines - All woody vines greater than 3.28 ft in height.	
3 <u>Quercus palustris</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
4 <u>Microstegium vimineum</u>	<u>2</u>	<u>N</u>	<u>FAC</u>		
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>19</u> = Total Cover				
	50% of total cover <u>9.5</u>	20% of total cover: <u>3.8</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-12-wet-2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 2 / 1	100					silt loam	
5-12	5Y 4 / 1	90	2.5YR 4 / 6	10			silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-12-wet-2

Project/Site: DC2RVA-Segment 03

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-12-wet-2 Typical view of forested portion of wetland.



02-WTL-12-wet-2 Typical view of forested portion of wetland showing old beaver damage.



02-WTL-12-wet-2 Typical view of forested portion of wetland.



02-WTL-12-wet-2 Wetland soil core.



02-WTL-12-wet-2 Upland data point.



02-WTL-12-wet-2 Upland soil core.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 28, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-12-upl
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.72455476 Long: -77.19893388 Datum: NAD-1983
 Soil Map Unit Name: Codorus and Hatboro soils, 0 to 2 percent slopes, occasionally flooded NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil X, or Hydrology significantly disturbed? yes Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: The soils in this area are very disturbed. Appears to be borrow material from adjacent ponds/wetlands. Possibly from former railroad work. Field Sheet: 03-C-WTL-07-UPL.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is disturbed and moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-12-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Betula nigra</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A)	
2 <u>Platanus occidentalis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>12</u> (B)	
3 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>40</u> = Total Cover 50% of total cover <u>20</u> 20% of total cover: <u>8</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Liquidambar styraciflua</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>0</u> x 1 = <u>0</u>	
2 <u>Lindera benzoin</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	FACW species <u>50</u> x 2 = <u>100</u>	
3 <u>Platanus occidentalis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	FAC species <u>60</u> x 3 = <u>180</u>	
4 <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	FACU species <u>65</u> x 4 = <u>260</u>	
5 _____				UPL species <u>0</u> x 5 = <u>0</u>	
6 _____				Column totals <u>175</u> (A) <u>540</u> (B)	
7 _____					
8 _____					
<u>40</u> = Total Cover 50% of total cover <u>20</u> 20% of total cover: <u>8</u>				Prevalence Index = B/A = <u>3.09</u>	
Herb Stratum (Plot Size: <u>5' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Celastrus orbiculatus</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Microstegium vimineum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3 <u>Toxicodendron radicans</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<u> </u> 3 - Prevalence Index is ≤3.0	
4 <u>Lonicera japonica</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 <u>Rosa multiflora</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
6 <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>85</u> = Total Cover 50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Toxicodendron radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
2 <u>Celastrus orbiculatus</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>		
3 _____					
4 _____					
5 _____					
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>					

Remarks: (If observed, list morphological adaptations below).
Vegetation contains several invasive species. Area previously disturbed.

SOIL

Sampling Point: **02-WTL-12-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	2.5Y 5 / 4	95	2.5YR 4 / 6	5			sandy loam	Soils sandy with some redox mixed in. However, may have been fill from adjacent wetlands/ponds.

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Soil very sandy and not consistent. Very disturbed area. Seems to be well drained on high spot.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 28, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-13-wet
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.72429183 Long: -77.19930951 Datum: NAD-1983

Soil Map Unit Name: Codorus and Hatboro Soils NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a depressional wetland along the railroad that connects with depressions to the east and north. Field Sheet: 03-C-WTL-06-WET.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): 0-5 Water table present? Yes <u>X</u> No <u> </u> Depth (inches): 0-2 Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This is a depression along the railroad that connects with depressions to the east and north. Potentially receives overflow flooding from Accotink Creek.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-13-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Glyceria striata</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Cyperus erythrorhizos</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3 <u>Leersia oryzoides</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4 <u>Potamogeton spp.</u>	<u>5</u>	<u>N</u>		
5 <u>Ranunculus spp.</u>	<u>4</u>	<u>N</u>		
6 <u>Typha angustifolia</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>55.5</u> 20% of total cover: <u>22.2</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Vegetation across inundated area contains Japanese stiltgrass (*Microstegium vimineum*).

SOIL

Sampling Point: **02-WTL-13-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3 / 1	90	5YR 3 / 4	10			silt loam	
3-6	5Y 3 / 1	95	2.5YR 4 / 6	5			silt loam	
6-12	5Y 4 / 1	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input checked="" type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Although the soil value and chroma are indicative of a depleted matrix, there is an apparent lack of redoximorphic features. It is likely that the dark organic matter within the soil is masking some of the concentrations that may be present.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-13-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	2	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 13

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-13-wet Wetland data point.



02-WTL-13-wet Wetland soil core.



02-WTL-13-wet Upland soil core.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 28, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-13-upl
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave Slope (%): 5%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.72455476 Long: -77.19893388 Datum: NAD-1983

Soil Map Unit Name: Codorus and Hatboro Soils NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil X, or Hydrology _____ significantly disturbed? yes Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: The soils in this area are very disturbed. Appears to be borrow material from adjacent ponds/wetlands. Possibly from former railroad work. Field Sheet: 03-C-WTL-06 and 07-UPL.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-13-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Betula nigra</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u>	(A)
2 <u>Platanus occidentalis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>12</u>	(B)
3 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>50</u> x 2 = <u>100</u>	
8 _____				FAC species <u>60</u> x 3 = <u>180</u>	
	<u>40</u> = Total Cover			FACU species <u>65</u> x 4 = <u>260</u>	
	50% of total cover <u>20</u>	20% of total cover: <u>8</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>175</u> (A) <u>540</u> (B)	
1 <u>Liquidambar styraciflua</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Prevalence Index = B/A = <u>3.09</u>	
2 <u>Lindera benzoin</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators:	
3 <u>Platanus occidentalis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
4 <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
5 _____				<u>3</u> - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____					
8 _____					
	<u>40</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>20</u>	20% of total cover: <u>8</u>		Definitions of Four Vegetation Strata:	
Herb Stratum (Plot Size: <u>5' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>Celastrus orbiculatus</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 <u>Microstegium vimineum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 <u>Toxicodendron radicans</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
4 <u>Lonicera japonica</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
5 <u>Rosa multiflora</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
6 <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>85</u> = Total Cover				
	50% of total cover <u>42.5</u>	20% of total cover: <u>17</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Toxicodendron radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Celastrus orbiculatus</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>		
3 _____					
4 _____					
5 _____					
	<u>10</u> = Total Cover				
	50% of total cover <u>5</u>	20% of total cover: <u>2</u>			

Remarks: (If observed, list morphological adaptations below).
Vegetation contains several invasive species. Area appears to be previously disturbed.

SOIL

Sampling Point: **02-WTL-13-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	2.5Y 5 / 4	95	2.5YR 4 / 6	5			sandy loam	Soils sandy w/ some redox mixed in. However, may have been fill from adjacent wetlands/ponds.

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Soil very sandy and not consistent. Very disturbed area. Seems to be well drained on high spot.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 28, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-14-wet
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.723553 Long: -77.201706 Datum: WGS84
 Soil Map Unit Name: Woodstown sandy loam, 2 to 7 percent slopes NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a linear depression on the floodplain of Accotink Creek that appears to pond water for long periods. Field Sheet: 03-C-WTL-05-WET.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Moss Trim Lines (B16) <input checked="" type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u> </u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): >10 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area typically remains saturated for long periods. Unusually dry recently.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-14-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Betula nigra</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>none</u>					Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Glyceria striata</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>		_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
2 <u>Potamogeton spp.</u>	<u>40</u>	<u>Y</u>			
3 <u>Ranunculus spp.</u>	<u>5</u>	<u>N</u>			
4 <u>Taxodium spp.</u>	<u>5</u>	<u>N</u>			
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>100</u> = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).

Red root sedge

SOIL

Sampling Point: **02-WTL-14-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹		
0-2	10YR	3 / 2	100					silt loam
2-5	2.5Y	4 / 1	90	2.5YR	4 6	5		silty clay loam
5-7	5Y	5 / 1	80	5YR	4 / 6	20		silty clay
7-12	5Y	4 / 2	95	7.5YR	5 / 6	5		silty clay

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: Clay
 Depth (inches): 7 Hydric soil present? Yes X No _____

Remarks: **Restrictive layer at 7 inches. Soils show strong hydric indicators.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-14-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	3	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 13

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-14-wet Typical view of ponded portion of wetland.



02-WTL-14-wet Typical view of wetland.



02-WTL-14-wet Wetland soil core.



02-WTL-14-wet Upland soil core.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 28, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-14-upl
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.723586 Long: -77.201918 Datum: NAD-1983
 Soil Map Unit Name: Woodstown sandy loam, 2 to 7 percent slopes NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is a sandy area north of Accotink Creek. The sand layer is greater than 12 inches deep. Field Sheet: 03-C-WTL-05-UPL.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area appears to be too well drained due to sand layer. Runoff and flooding appear to pool in depressions to the north in 03-C-WTL-05 and 03-C-WTL-06.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-14-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Betula nigra</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u>	(A)
2 <u>Acer negundo</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>5</u>	(B)
3 <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u>	(A/B)
4 <u>Platanus occidentalis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>		
5 _____					
6 _____					
7 _____					
8 _____					
<u>42</u> = Total Cover				Prevalence Index worksheet	
50% of total cover <u>21</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>8.4</u>				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>107</u> x 2 = <u>214</u>	
				FAC species <u>105</u> x 3 = <u>315</u>	
				FACU species <u>10</u> x 4 = <u>40</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>222</u> (A) <u>569</u> (B)	
				Prevalence Index = B/A = <u>2.56</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Lindera benzoin</u>	<u>80</u>	<u>Y</u>	<u>FACW</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
2 <u>Catalpa spp.</u>	<u>5</u>	<u>N</u>		<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
3 _____				<input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0	
4 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
<u>85</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>42.5</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>17</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Microstegium vimineum</u>	<u>80</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Celastrus orbiculatus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
3 <u>Phytolacca americana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
4 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
5 <u>Aster spp.</u>	<u>2</u>	<u>N</u>			
6 _____					
7 _____					
8 _____					
9 _____					
<u>97</u> = Total Cover					
50% of total cover <u>48.5</u>					
20% of total cover: <u>19.4</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
1 <u>Toxicodendron radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
<u>5</u> = Total Cover					
50% of total cover <u>2.5</u>					
20% of total cover: <u>1</u>					

Remarks: (If observed, list morphological adaptations below).
Hydrophytic vegetation may be present. It is in the floodplain of Accotink Creek. Understory dominated by spicebush. River birch appears to dominate the sandy stream terrace.

SOIL

Sampling Point: **02-WTL-14-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12							sand	all sand to >12 inches

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **All sand with no signs of redox, etc. No clear color noted.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 27, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-15-wet
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.722163 Long: -77.206156 Datum: NAD-1983
 Soil Map Unit Name: Codorus and Hatboro Soils NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland is located in a depression between the CSX railroad and I-95. Field Sheet: 03-C-WTL-04-WET.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): 1-3 Water table present? Yes <u>X</u> No <u> </u> Depth (inches): 0-2 Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Located in depression between railroad and I-95 and south of Accotink Creek. Receives drainage from I-95 ditches, and possible overflow from creek.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-15-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Glyceria striata</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Typha angustifolia</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3 <u>Phragmites australis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4 <u>Juncus effusus</u>	<u>8</u>	<u>N</u>	<u>OBL</u>	
5 <u>Leersia oryzoides</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6 <u>Scirpus spp.</u>				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>56.5</u> 20% of total cover: <u>22.6</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Large amounts of Phragmites present within this wetland.

SOIL

Sampling Point: **02-WTL-15-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-2	5Y 4 / 1	90	2.5YR 4 / 6	10			silty clay loam	
2-10	5Y 5 / 1	90	2.5YR 3 6	10			silty clay loam	
10-15	5Y 5 / 1	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are saturated and have strong hydric characteristics.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-15-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-15-wet Phragmites in wetland.



02-WTL-15-wet Typical view of wetland.



02-WTL-15-wet Non-vegetated concave surface in wetland.



02-WTL-15-wet Typical view of wetland.



02-WTL-15-wet Wetland soil core.



02-WTL-15-wet Upland soil core.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 27, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-15-upl
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0-2
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.721081 Long: -77.207796 Datum: NAD-1983
 Soil Map Unit Name: Codorus and Hatboro Soils NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland area located between railroad and I-95 that is well drained. Field Sheet: 03-C-WTL-04-UPL.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is well drained with no wetland hydrology indicators.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-15-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>45</u> x 4 = <u>180</u> UPL species <u>50</u> x 5 = <u>250</u> Column totals <u>100</u> (A) <u>445</u> (B) Prevalence Index = B/A = <u>4.45</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Cercis canadensis</u>	<u>50</u>	<u>Y</u>	<u>UPL</u>	
2 <u>Carya glabra</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3				
4				
5				
6				
7				
8				
55 = Total Cover 50% of total cover <u>27.5</u> 20% of total cover: <u>11</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Phytolacca americana</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Rubus spp.</u>	<u>10</u>	<u>N</u>		
3 <u>Toxicodendron radicans</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4				
5				
6				
7				
8				
9				
10				
11				
12				
55 = Total Cover 50% of total cover <u>27.5</u> 20% of total cover: <u>11</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
				Hydrophytic vegetation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-15-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-15	10YR 4 / 3						sandy loam	Fine

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Upland area, no hydric soils.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 26, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-16-wet
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression/floodplain Local relief (concave, convex, none): concave Slope (%): <1%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.72227 Long: -77.204754 Datum: NAD-1983
 Soil Map Unit Name: Codorus and Hatboro Soils NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.) **Dry fall**
 Are vegetation , Soil X, or Hydrology significantly disturbed? **Yes** Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a wetland in the floodplain of Accotink Creek (03-C-STR-01). Much of the wetland in the study limits has been disturbed in the past. A layer of gravel/old pavement underlies the area making soils difficult to assess. However, they appear to be hydric where cores could be taken. Field Sheet: 03-C-WTL-01-WET.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area shows signs of having hydrology, but it is dry during the sampling period. The disturbed soils seem to affect the drainage in some higher spots. Sandy soils occur nearing Accotink Creek on the high stream terrace. Area receives overflow flooding from Accotink Creek.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-16-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>1</u> x 1 = <u>1</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>90</u> x 3 = <u>270</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>96</u> (A) <u>291</u> (B) Prevalence Index = B/A = <u>3.03</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Microstegium vimineum</u>	<u>90</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Rosa multiflora</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3 <u>Eupatorium sp.</u>	<u>5</u>	<u>N</u>		
4 <u>Aster sp.</u>	<u>5</u>	<u>N</u>		
5 <u>Typha angustifolia</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
6				
7				
8				
9				
10				
11				
12				
<u>106</u> = Total Cover 50% of total cover <u>53</u> 20% of total cover: <u>21.2</u>				Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <u> X</u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
				Hydrophytic vegetation present? Yes <u>X</u> No <u> </u>

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-16-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-10	10YR 4 / 3	80	7.5YR 3 / 4	20			sandy clay	Fine
10-12	2.5YR 4 / 2	70	7.5YR 7 / 6	30			sandy clay	
12-18	5YR 4 / 1	60	5YR 5 / 8	10			sandy loam	Fine
			2.5YR 4 / 8	2			loam	Fine

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils near surface appear to have been disturbed; may contain fill. Very gravelly in most areas within study limits. Professional judgment used to determine hydric soil status.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-16-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-16-wet Wetland soil core.



02-WTL-16-wet Typical view of wetland.



02-WTL-16-wet Typical view of upland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 26, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-16-upl
 Investigator(s): Team C - J. Budnik & M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 10%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.72252017 Long: -77.20418826 Datum: NAD-1983
 Soil Map Unit Name: Codorus and Hatboro Soils NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.) **Dry fall**
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Upland data point is located in the bank of Accotink Creek (03-C-STR-01). Floodplain/depression area adjacent upland point is located on stream terrace. Field Sheet: 03-C-WTL-01-UPL	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Located on the bank of Accotink Creek. Higher point, no hydrology indicators present, and the area is well drained. Bank is higher up from the creek.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-16-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Betula nigra</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u>	(A)
2 <u>Platanus occidentalis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>5</u>	(B)
3 <u>Fraxinus spp.</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u>	(A/B)
4 <u>Acer saccharinum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
5 _____					
6 _____					
7 _____					
8 _____					
<u>40</u> = Total Cover					
50% of total cover <u>20</u>					
20% of total cover: <u>8</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet	
1 <u>none</u>				Total % Cover of: _____	Multiply by: _____
2 _____				OBL species <u>0</u> x 1 = <u>0</u>	
3 _____				FACW species <u>22</u> x 2 = <u>44</u>	
4 _____				FAC species <u>100</u> x 3 = <u>300</u>	
5 _____				FACU species <u>7</u> x 4 = <u>28</u>	
6 _____				UPL species <u>0</u> x 5 = <u>0</u>	
7 _____				Column totals <u>129</u> (A) <u>372</u> (B)	
8 _____					
<u>0</u> = Total Cover				Prevalence Index = B/A = <u>2.88</u>	
50% of total cover <u>0</u>					
20% of total cover: <u>0</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1 <u>Microstegium vimineum</u>	<u>90</u>	<u>Y</u>	<u>FAC</u>	1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Lonicera japonica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3 <u>Persicaria maculosa</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
4 <u>Rosa multiflora</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
5 <u>Aster spp.</u>	<u>1</u>	<u>N</u>			
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>100</u> = Total Cover				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
50% of total cover <u>50</u>					
20% of total cover: <u>20</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic vegetation present?	
1 <u>none</u>				Yes <input checked="" type="checkbox"/>	No _____
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover					
50% of total cover <u>0</u>					
20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-16-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 4 / 6	100					sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)				
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Point on stream terrace. Most likely sand deposited from stream.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 27, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-17-wet
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.717477 Long: -77.212224 Datum: NAD-1983
 Soil Map Unit Name: Sassafras-Marumsc Complex NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.) **dry fall**
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a small bottomland hardwood wetland that appears to receive overflow flooding/backup from adjacent stream. Field Sheet: 03-C-WTL-03-WET.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Appears to receive overflow flooding/backup from adjacent stream.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-17-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>80</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)	
2 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>N</u>	<u>FAC</u>		
3 <u>Betula nigra</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
4 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u> (A/B)	
5 _____					
6 _____				Prevalence Index worksheet	
7 _____					
8 _____					
<u>105</u> = Total Cover					
50% of total cover <u>52.5</u> 20% of total cover: <u>21</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>Lindera benzoin</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>		Total % Cover of: _____ Multiply by: _____
2 _____					OBL species <u>10</u> x 1 = <u>10</u>
3 _____				FACW species <u>55</u> x 2 = <u>110</u>	
4 _____				FAC species <u>130</u> x 3 = <u>390</u>	
5 _____				FACU species <u>10</u> x 4 = <u>40</u>	
6 _____				UPL species <u>0</u> x 5 = <u>0</u>	
7 _____				Column totals <u>205</u> (A) <u>550</u> (B)	
8 _____					
<u>50</u> = Total Cover					
50% of total cover <u>25</u> 20% of total cover: <u>10</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Microstegium vimineum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Prevalence Index = B/A = <u>2.68</u>	
2 <u>Saururus cernuus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>		
3 <u>Lonicera japonica</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>50</u> = Total Cover					
50% of total cover <u>25</u> 20% of total cover: <u>10</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>				Definitions of Four Vegetation Strata:	
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover					
50% of total cover <u>0</u> 20% of total cover: <u>0</u>					
Remarks: (If observed, list morphological adaptations below).				Hydrophytic vegetation present? Yes <u>X</u> No _____	

SOIL

Sampling Point: **02-WTL-17-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹		
0-5	10YR	3 / 2	100					silt loam	
5-12	2.5YR	5 / 2	60	7.5YR	4 / 6	30		silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soil is dry but shows signs of reduced conditions below 5 inches.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-17-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 7

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-17-wet Bottomland hardwood wetland habitat.



02-WTL-17-wet Non-vegetated concave surface in wetland.



02-WTL-17-wet Typical view of wetland



02-WTL-17-wet Typical view of wetland

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 27, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-17-upl
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): <1%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.717726 Long: -77.211897 Datum: NAD-1983

Soil Map Unit Name: Sassafras-Marumsc Complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the upland data point near wetland 03-WTL-14. Field Sheet: 03-C-WTL-03-UPL.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Well drained upland area.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-17-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1 <u>Betula nigra</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u> (A/B)														
2 _____	_____	_____	_____															
3 _____	_____	_____	_____															
4 _____	_____	_____	_____															
5 _____	_____	_____	_____															
6 _____	_____	_____	_____															
7 _____	_____	_____	_____															
8 _____	_____	_____	_____															
_____ = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				Prevalence Index worksheet <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>40</u></td> <td>x 2 = <u>80</u></td> </tr> <tr> <td>FAC species <u>37</u></td> <td>x 3 = <u>111</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column totals <u>177</u> (A)</td> <td><u>591</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.34</u> Hydrophytic Vegetation Indicators: ___ 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ___ Problematic Hydrophytic Vegetation ¹ (Explain)	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>40</u>	x 2 = <u>80</u>	FAC species <u>37</u>	x 3 = <u>111</u>	FACU species <u>100</u>	x 4 = <u>400</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column totals <u>177</u> (A)	<u>591</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>40</u>	x 2 = <u>80</u>																	
FAC species <u>37</u>	x 3 = <u>111</u>																	
FACU species <u>100</u>	x 4 = <u>400</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column totals <u>177</u> (A)	<u>591</u> (B)																	
_____ = Total Cover 50% of total cover <u>40</u> 20% of total cover: <u>16</u>																		
_____ = Total Cover 50% of total cover <u>43.5</u> 20% of total cover: <u>17.4</u>																		
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>																		

Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Lindera benzoin</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 <u>Asimina triloba</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Rosa multiflora</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>40</u> 20% of total cover: <u>16</u>				

Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Lonicera japonica</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____
2 <u>Asimina triloba</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
3 <u>Athyrium angustum</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
11 _____	_____	_____	_____	
12 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>43.5</u> 20% of total cover: <u>17.4</u>				

Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Hydrophytic vegetation present, however data point is close to the fringe, and otherwise meets upland status.

SOIL

Sampling Point: **02-WTL-17-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR	4 / 3	100					silt loam	
6-12	10YR	5 / 4	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Soils are dry and crumbly.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 27, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-18-wet
 Investigator(s): J. Budnik, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.71691 Long: -77.213005 Datum: NAD-1983
 Soil Map Unit Name: Sassafras-Marumsc Complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a depression between I-95 and CSX RR. This area is inundated and appears to remain wet for a long period. Field Sheet: 03-C-WTL-02-WET.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u>X</u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u>X</u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): 1-6 Water table present? Yes <u>X</u> No <u> </u> Depth (inches): 0-2 Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area appears to receive overflow flooding or backup water from a nearby stream, a concrete lined stream between CSX Railroad, and I-95. The water remains trapped in a large depression.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-18-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
2 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>30</u> = Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>80</u> x 1 = <u>80</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>110</u> (A) <u>170</u> (B) Prevalence Index = B/A = <u>1.55</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Leersia oryzoides</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Polygonum spp.</u>	<u>50</u>	<u>Y</u>		
3 <u>Saururus cernuus</u>	<u>20</u>	<u>N</u>	<u>OBL</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>130</u> = Total Cover 50% of total cover <u>65</u> 20% of total cover: <u>26</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (If observed, list morphological adaptations below). Trees along wetland fringe. Most of area is PEM.				

SOIL

Sampling Point: **02-WTL-18-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	2.5Y 4 / 1	90	5Y 5 / 6	10			silty clay	
3-8	5Y 5 / 1	70	5YR 4 / 6	30			silty clay	
8-14	5Y 5 / 1	90	7.5YR 5 / 6	10			silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-18-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	3	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-18-wet Typical view of ponded area of wetland.



02-WTL-18-wet Typical view of wetland.



02-WTL-18-wet Wetland soil core.



02-WTL-18-wet Upland data point.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 27, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-18-upl
 Investigator(s): Team C - J. Budnik & M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): <1%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.717104 Long: -77.212841 Datum: NAD-1983

Soil Map Unit Name: Sassafras-Marumsc Complex NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u> Hydric Soil Present? Yes <u> </u> No <u> X </u> Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Remarks: Upland area is present between I-95 and railroad. Field Sheet: 03-C-WTL-02-UPL.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): Water table present? Yes <u> </u> No <u> X </u> Depth (inches): Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland area located in depression between I-95 and railroad.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-18-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Fagus grandifolia</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2 <u>Liriodendron tulipifera</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>6</u> (B)	
3 <u>Ulmus spp.</u>	<u>5</u>	<u>N</u>	<u></u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)	
4 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
5 _____					
6 _____					
7 _____					
8 _____					
<u>30</u> = Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Carpinus caroliniana</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>0</u> x 1 = <u>0</u>	
2 <u>Carya ovata</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	FACW species <u>0</u> x 2 = <u>0</u>	
3 <u>Cercis canadensis</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	FAC species <u>135</u> x 3 = <u>405</u>	
4 _____				FACU species <u>60</u> x 4 = <u>240</u>	
5 _____				UPL species <u>20</u> x 5 = <u>100</u>	
6 _____				Column totals <u>215</u> (A) <u>745</u> (B)	
7 _____					
8 _____					
<u>80</u> = Total Cover 50% of total cover <u>40</u> 20% of total cover: <u>16</u>				Prevalence Index = B/A = <u>3.47</u>	
Herb Stratum (Plot Size: <u>5' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Microstegium vimineum</u>	<u>90</u>	<u>Y</u>	<u>FAC</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Lonicera japonica</u>	<u>20</u>	<u>N</u>	<u>FACU</u>	<u> </u> 2 - Dominance Test is >50%	
3 <u>Rubus spp.</u>	<u>5</u>	<u>N</u>	<u></u>	<u> </u> 3 - Prevalence Index is ≤3.0	
4 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>115</u> = Total Cover 50% of total cover <u>57.5</u> 20% of total cover: <u>23</u>				Definitions of Four Vegetation Strata:	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
1 <u>none</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-18-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹		
0-3	10YR	4 / 3	100					silt loam
3-12	10YR	5 / 3	100					silt loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils are dry and crumbly**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-19-wet-1
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.707538 Long: -77.219919 Datum: NAD-1983
 Soil Map Unit Name: Elton Silt Loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland is along east side of tracks and continues into forested area. Some capillary fringe is present on hillslope to railroad. Soil is saturated. Field Sheet: 03-B-WTL-02-WETDP1	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u>X</u> No <u> </u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil is saturated with high water table. There is capillary fringe on hillslope to railroad.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-19-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Nyssa sylvatica</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Acer rubrum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>85</u> = Total Cover 50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>145</u> x 3 = <u>435</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>150</u> (A) <u>445</u> (B) Prevalence Index = B/A = <u>2.97</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Microstegium vimineum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Polygonum</u>	<u>5</u>	<u>N</u>		
3 <u>Boehmeria cylindrica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4 <u>Aster latifolius</u>	<u>5</u>	<u>N</u>		
5 <u>unidentified fern</u>	<u>5</u>	<u>N</u>		
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>80</u> = Total Cover 50% of total cover <u>40</u> 20% of total cover: <u>16</u>				Hydrophytic Vegetation Indicators: <u>1</u> -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50% <input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0 _____ Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.				

Hydrophytic vegetation present? Yes <u>X</u> No _____				
Remarks: (If observed, list morphological adaptations below). 				

SOIL

Sampling Point: **02-WTL-19-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3 / 2						clay loam	
2-6	10YR 4 / 1	95	7.5YR 5 / 8	5			sandy clay	
6-12	10YR 5 / 1	95	7.5YR 5 / 8	5			sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-19-wet-1

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	2	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-19-wet-1 Saturated wetland area.



02-WTL-19-wet-1 Upland data area

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-19-upl-1
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 10%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.707564 Long: -77.220086 Datum: NAD-1983
 Soil Map Unit Name: Elton Silt Loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Data point near toe of slope of ballast for railroad. Field Sheet: 03-B-WTL-02-UPLDP1	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **On hillslope. Soil is moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-19-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Liriodendron tulipifera</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2 <u>Acer rubrum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>50</u> = Total Cover 50% of total cover <u>25</u> 20% of total cover: <u>10</u>				Prevalence Index worksheet
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____
1 <u>none</u>				OBL species <u>0</u> x 1 = <u>0</u>
2 _____				FACW species <u>0</u> x 2 = <u>0</u>
3 _____				FAC species <u>35</u> x 3 = <u>105</u>
4 _____				FACU species <u>30</u> x 4 = <u>120</u>
5 _____				UPL species <u>60</u> x 5 = <u>300</u>
6 _____				Column totals <u>125</u> (A) <u>525</u> (B)
7 _____				
8 _____				Prevalence Index = B/A = <u>4.20</u>
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators:
Herb Stratum (Plot Size: <u>5' radius</u>)				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation
1 <u>Erythronium albidum</u>	<u>60</u>	<u>Y</u>	<u>UPL</u>	<input type="checkbox"/> 2 - Dominance Test is >50%
2 <u>Rubus spp.</u>	<u>15</u>	<u>N</u>		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0
3 <u>Aster robusta</u>	<u>5</u>	<u>N</u>		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
4 <u>Microstegium vimineum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5 <u>Persicaria perfoliata</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6 <u>Lonicera japonica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	Definitions of Four Vegetation Strata:
7 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
10 _____				Woody vines - All woody vines greater than 3.28 ft in height.
11 _____				
12 _____				
<u>95</u> = Total Cover 50% of total cover <u>47.5</u> 20% of total cover: <u>19</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-19-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 6 / 3	70	7.5YR 6 / 8	30			sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-19-wet-2
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.709300 Long: -77.2192833 Datum: NAD-1983
 Soil Map Unit Name: Elkton Silt Loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Data point 2 for WTL-02. Surface water is present at data point. Data point located in forested portion of wetland complex. Soil is saturated. <i>Saururus cernuus</i> is primary vegetation at data point. Small drainages come from underneath wetland creating fingers of wetlands through study area. Wetland has high functional value. Field Sheet: 03-B-WTL-02-WETDP2	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): Water table present? Yes <u>X</u> No <u> </u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Data point taken in area where water is at surface. Soils are saturated. Small drainages coming from under railroad. This creates fingers of wetlands within study area. Topography undulates within study area. Wetland have strong functional value.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-19-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Liriodendron tulipifera</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2 <u>Acer rubrum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>5</u> (B)
3 <u>Betula nigra</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u> (A/B)
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>65</u> x 1 = <u>65</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>45</u> x 3 = <u>135</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>170</u> (A) <u>380</u> (B) Prevalence Index = B/A = <u>2.24</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5 _____				
6 _____				
7 _____				
8 _____				
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Carpinus caroliniana</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Saururus cernuus</u>	<u>65</u>	<u>Y</u>	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 <u>Microstegium vimineum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3 <u>Smilax spp.</u>	<u>5</u>	<u>N</u>		
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>80</u> = Total Cover 50% of total cover <u>40</u> 20% of total cover: <u>16</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <u>X</u> No _____				

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-19-wet-2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	7.5YR 2 / 1	100					silty clay	
3-12+	7.5YR 3 / 1	100					silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input checked="" type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-19-wet-2

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	3	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	3	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	3	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 15

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-19-wet-2 Typical view of wetland.



02-WTL-19-wet-2 View of upland area.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-19-upl-2
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Convex Slope (%): _____
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.709460 Long: -77.219361 Datum: NAD-1983
 Soil Map Unit Name: Elton Silt Loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Data point is within forested area. Soil is well drained. Field Sheet: 03-B-WTL-02-UPLDP2	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil is well drained. Data point is on a higher area within forest, adjacent to 03-B-STL-02-WETDP2.**

SOIL

Sampling Point: **02-WTL-19-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 3	100					loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Lorton Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-20-wet
 Investigator(s): D. Mitchell & K. Astroth Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillside seep Local relief (concave, convex, none): Concave Slope (%): NA
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.70718 Long: -77.220217 Datum: NAD-1983
 Soil Map Unit Name: Elkton silt loam, 0 to 2 percent slopes, occasionally ponded. NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a small seep associated with a culvert that runs underneath the railroad. A wetland datapoint was not taken. The wetland is approximately 50 feet west of the railway. No photos were taken of this small seep.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **A wetland datapoint was not taken.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-20-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>0</u>	(A) <u>0</u> (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).
A wetland datapoint was not taken; however, typical wetland vegetation in this region includes: *Juncus effusus*, *Microstegium vimineum*, *Boehmeria cylindrica*, and *Saururus cernuus*.

SOIL

Sampling Point: 02-WTL-20-wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks: **A soil core was not obtained. The soils fall within the following map unit: Elkton silt loam, 0 to 2 percent slopes, occasionally ponded. Elkton soils are poorly drained.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-20-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Lorton Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-20-upl
 Investigator(s): D. Mitchell & K. Astroth Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): CSX ballast toe Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): LRR: S, MLRA: 133A Lat: 38.707187 Long: -77.220418 Datum: NAD-1983
 Soil Map Unit Name: Urban land NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		

Remarks: **An upland datapoint was not taken. The upland point is adjacent to the railroad ballast.**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	_____ Surface Soil Cracks (B6)
_____ Surface Water (A1)	_____ Sparsely Vegetated Concave Surface (B8)
_____ High Water Table (A2)	_____ Drainage Patterns (B10)
_____ Saturation (A3)	_____ Moss Trim Lines (B16)
_____ Water Marks (B1)	_____ Dry-Season Water Table (C2)
_____ Sediment Deposits (B2)	_____ Crayfish Burrows (C8)
_____ Drift Deposits (B3)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Algal Mat or Crust (B4)	_____ Geomorphic Position (D2)
_____ Iron Deposits (B5)	_____ Shallow Aquitard (D3)
_____ Inundation Visible on Aerial Imagery (B7)	_____ FAC-Neutral Test (D5)
_____ Water-Stained Leaves (B9)	_____ Sphagnum moss (D8) (LRR T, U)
_____ Aquatic Fauna (B13)	
_____ Marl Deposits (B15) (LRR U)	
_____ Hydrogen Sulfide Odor (C1)	
_____ Oxidized Rhizospheres on Living Roots (C3)	
_____ Presence of Reduced Iron (C4)	
_____ Recent Iron Reduction in Tilled Soils (C6)	
_____ Thin Muck Surface (C7)	
_____ Other (Explain in Remarks)	

Field Observations:		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface water present? Yes _____ No <u>X</u> Depth (inches): _____		
Water table present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **An upland datapoint was not able to be taken. The upland point is adjacent to the railroad ballast. Soils/gravel along the railroad ballast are typically well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-20-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>0</u>	(A) <u>0</u> (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).
An upland datapoint was not able to be taken; however, typical upland vegetation along the railway includes: foxtail, *Solidago* spp., *Lespedeza* spp., *Lonicera japonica*, and mullein.

SOIL

Sampling Point: 02-WTL-20-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **A soil core was not obtained. This upland point is adjacent to the railway. Soils typically contain gravel/rock from the railway ballast and may be restrictive at a shallow depth. The soils fall within the following map unit: Urban land. This map unit consists of nearly level to moderately steep areas where the soils have been altered or obscured by urban work and structures.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-21-wet
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Concave Slope (%): 5%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.706449 Long: -77.220169 Datum: NAD-1983
 Soil Map Unit Name: Elkton Silt Loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland is low area along east side of railroad. Wetland receives drainage from 03-B-STR-01 located south of wetland. There is capillary action on hillslope of railroad. STR-01 turns into WTL-01. There are several braided channels within the wetland. Soil is sandy and saturated. Many black willow trees are present. Field Sheet: 03-B-WTL-01-WETDP1	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u>X</u> No <u> </u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil is saturated. Receives drainage from STR-01. Capillary action within hillside up to railroad. Some seeps are present within hillside.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-21-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1 <u>Salix nigra</u>	<u>70</u>	<u>Y</u>	<u>OBL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)			
2 <u>Acer rubrum</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>5</u> (B)			
3 <u>Magnolia spp.</u>	<u>15</u>	<u>N</u>		Percent of Dominant Species that are OBL, FACW, or FAC: <u>40.00%</u> (A/B)			
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>70</u> x 1 = <u>70</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u>10</u> x 5 = <u>50</u> Column totals <u>160</u> (A) <u>410</u> (B) Prevalence Index = B/A = <u>2.56</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
5 _____							
6 _____							
7 _____							
8 _____							
_____ = Total Cover							
50% of total cover <u>50</u>							
20% of total cover: <u>20</u>							
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status				
1 <u>Prunus virginiana</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>				
2 <u>Ilex opaca</u>	<u>5</u>	<u>N</u>	<u>FAC</u>				
3 _____							
4 _____							
5 _____							
6 _____							
7 _____							
8 _____							
_____ = Total Cover							
50% of total cover <u>27.5</u>							
20% of total cover: <u>11</u>							
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status				
1 <u>Erythronium albidum</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____			
2 <u>Microstegium vimineum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>				
3 <u>Rubus spp.</u>	<u>10</u>	<u>Y</u>					
4 _____							
5 _____							
6 _____							
7 _____							
8 _____							
9 _____							
10 _____							
11 _____							
12 _____							
_____ = Total Cover							
50% of total cover <u>15</u>							
20% of total cover: <u>6</u>							
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status				
1 <u>none</u>							
2 _____							
3 _____							
4 _____							
5 _____							
_____ = Total Cover							
50% of total cover <u>0</u>							
20% of total cover: <u>0</u>							

Remarks: (If observed, list morphological adaptations below).
Herb layer is sparse in the more sandy, braided channels within wetland. Terrain is higher at base of willow trees, so there are less hydrophytic plants in these locations (*Ilex opaca*, *Erythronium albidum*, *Rubus* spp.).

SOIL

Sampling Point: **02-WTL-21-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2 / 1						silty clay	
3-12+	10YR 6 / 2						sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-21-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-21-wet Typical view of forested portion of wetland.



02-WTL-21-wet Typical view of wetland



02-WTL-21-wet Typical view of edge of wetland

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-21-upl
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.706201 Long: -77.220518 Datum: NAD-1983
 Soil Map Unit Name: Elkton Silt Loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Upland data point on toe of slope; below ballast. Soil is moderately well drained. Field Sheet: 03-B-WTL-01-UPLDP1	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland point is on toe of slope, below ballast for railroad. Soil is moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-21-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liriodendron tulipifera</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>4</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>10</u> x 2 = <u>20</u>	
8 _____				FAC species <u>75</u> x 3 = <u>225</u>	
				FACU species <u>35</u> x 4 = <u>140</u>	
				UPL species <u>5</u> x 5 = <u>25</u>	
				Column totals <u>125</u> (A) <u>410</u> (B)	
<u>30</u> = Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>				Prevalence Index = B/A = <u>3.28</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Liquidambar styraciflua</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
2 <u>Pyrus calleryana</u>	<u>5</u>	<u>N</u>		<u>2</u> - Dominance Test is >50%	
3 _____				<u>3</u> - Prevalence Index is ≤3.0	
4 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
<u>65</u> = Total Cover 50% of total cover <u>32.5</u> 20% of total cover: <u>13</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Microstegium vimineum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
2 <u>Rubus spp.</u>	<u>10</u>	<u>Y</u>			
3 <u>Solidago spp.</u>	<u>5</u>	<u>N</u>			
4 <u>Eupatorium perfoliatum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
5 <u>Erythronium albidum</u>	<u>5</u>	<u>N</u>	<u>UPL</u>		
6 <u>Lonicera japonica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
7 <u>Quercus phellos</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>50</u> = Total Cover 50% of total cover <u>25</u> 20% of total cover: <u>10</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-21-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 6 / 4	90	7.5YR 6 / 8	10			sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X** _____

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-22-wet
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.695072 Long: -77.224321 Datum: NAD-1983
 Soil Map Unit Name: Urban land NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland is a long, narrow ditch along east side of railroad. Surface water is present in portion of reach. Soil is saturated. Wetland drains to the south. Field Sheet 04-B-WTL-12-Wetdp1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u><1 inch</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Surface water is present in portion of reach. Soil is saturated. Wetland vegetation present.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-22-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: ___ 1 -Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Phragmites spp.</u>	<u>30</u>	<u>Y</u>		
2 <u>Carex spp.</u>	<u>5</u>	<u>N</u>		
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>17.5</u> 20% of total cover: <u>7</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).

Vegetation is sparse.

SOIL

Sampling Point: **02-WTL-22-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 2 / 1	100					silt	muck
3-12	10YR 4 / 1	90	5YR 5 / 8	10			sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **The soil core was saturated.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-22-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-22-wet Inundated portion of wetland.



02-WTL-22-wet Herbicide use in RR ditch wetland.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-22-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Fagus grandifolia</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)	
2 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>7</u> (B)	
3 <u>Quercus alba</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>57.14%</u> (A/B)	
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>52</u> x 3 = <u>156</u> FACU species <u>70</u> x 4 = <u>280</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>122</u> (A) <u>436</u> (B) Prevalence Index = B/A = <u>3.57</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
_____ = Total Cover <u>90</u>					
50% of total cover <u>45</u>			20% of total cover: <u>18</u>		
_____ = Total Cover <u>50</u>					
50% of total cover <u>25</u>			20% of total cover: <u>10</u>		
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes _____ No <u>X</u>	
1 <u>Liquidambar styraciflua</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Pinus echinata</u>	<u>25</u>	<u>Y</u>			
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
_____ = Total Cover <u>50</u>					
50% of total cover <u>25</u>			20% of total cover: <u>10</u>		
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Carya spp.</u>	<u>2</u>	<u>Y</u>			
3 <u>Microstegium vimineum</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
_____ = Total Cover <u>9</u>					
50% of total cover <u>4.5</u>			20% of total cover: <u>1.8</u>		
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
_____ = Total Cover <u>0</u>					
50% of total cover <u>0</u>			20% of total cover: <u>0</u>		

Remarks: (If observed, list morphological adaptations below).
Ground is mostly bare.

SOIL

Sampling Point: **02-WTL-22-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 6 / 3	100					loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-23-wet
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.68737 Long: -77.226783 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation X, Soil , or Hydrology significantly disturbed? Yes Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland is a railroad ditch (long and narrow) along east side of tracks. Surface water is present and soil is saturated. Wetland drains to the south, towards Giles Creek. Herbicide has been used on vegetation. Field Sheet 04-B-WTL-11-wetDP1 .	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Water Marks (B1)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Geomorphic Position (D2)
<u> </u> Sediment Deposits (B2)	<u> </u> Shallow Aquitard (D3)
<u> </u> Presence of Reduced Iron (C4)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Drift Deposits (B3)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Iron Deposits (B5)	
<u> </u> Other (Explain in Remarks)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u> </u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u><1 inch</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Surface water is present and soil is saturated. Wetland drains to the south, towards Giles Creek. Wetland vegetation present, herbicide has been used along railroad.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-23-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Total Cover <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Total Cover <u>5</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Murdannia keisak</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Microstegium vimineum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>40</u> 20% of total cover: <u>16</u>				
Total Cover <u>80</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Total Cover <u>0</u>				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>50</u>	x 1 = <u>50</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>35</u>	x 3 = <u>105</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>85</u> (A)	<u>155</u> (B)

Prevalence Index = B/A = 1.82

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Herbicide has been used along railroad. Most vegetation is dead or stressed.

SOIL

Sampling Point: **02-WTL-23-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-8	10YR 3 / 1	100					loam	
8-12+	10YR 6 / 3	100					sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are disturbed as a result of being near railroad, but they are actively reducing.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-23-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-23-wet Narrow RR ditch wetland.



02-WTL-23-wet Inundation in RR ditch wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-23-upl
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): None Slope (%): 15%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.68738 Long: -77.226677 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland point adjacent to WTL-11. Located on hillslope on east side of WTL-11. Soil is well drained. Field Sheet 04-B-WTL-11-UpDP1			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **On hillslope on east of WTL-11. Soil is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-23-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Platanus occidentalis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)	
2 <u>Robinia pseudoacacia</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>		
3 <u>Magnolia grandiflora</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>9</u> (B)	
4 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>44.44%</u> (A/B)	
5 <u>Prunus serotina</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
6 _____				Prevalence Index worksheet	
7 _____					
8 _____					
	<u>65</u> = Total Cover				
	50% of total cover <u>32.5</u>	20% of total cover: <u>13</u>			
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>Acer rubrum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>		Total % Cover of: _____ Multiply by: _____
2 <u>Quercus rubra</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		OBL species <u>0</u> x 1 = <u>0</u>
3 _____				FACW species <u>20</u> x 2 = <u>40</u>	
4 _____				FAC species <u>60</u> x 3 = <u>180</u>	
5 _____				FACU species <u>60</u> x 4 = <u>240</u>	
6 _____				UPL species <u>15</u> x 5 = <u>75</u>	
7 _____				Column totals <u>155</u> (A) <u>535</u> (B)	
8 _____					
	<u>35</u> = Total Cover			Prevalence Index = B/A = <u>3.45</u>	
	50% of total cover <u>17.5</u>	20% of total cover: <u>7</u>		Hydrophytic Vegetation Indicators:	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Lonicera japonica</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
2 <u>Phytolacca americana</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	<u>2</u> - Dominance Test is >50%	
3 <u>Rubus spp.</u>	<u>5</u>	<u>N</u>		<u>3</u> - Prevalence Index is ≤3.0	
4 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>50</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>25</u>	20% of total cover: <u>10</u>		Definitions of Four Vegetation Strata:	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>Toxicodendron radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 <u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 <u>Vitus spp.</u>	<u>5</u>	<u>Y</u>		Woody vines - All woody vines greater than 3.28 ft in height.	
4 _____					
5 _____					
	<u>15</u> = Total Cover				
	50% of total cover <u>7.5</u>	20% of total cover: <u>3</u>		Hydrophytic vegetation present? Yes _____ No <u>X</u>	

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-23-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3 / 4	100					loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Refused at 10". Soil is dry and crumbly. Soil is well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Lorton Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-24-wet
 Investigator(s): D. Mitchell & K. Astroth Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Seep Local relief (concave, convex, none): Concave Slope (%): NA
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.675262 Long: -77.229944 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam, 0 to 25 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
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Remarks: **This is a small seep adjacent to the railroad. A wetland datapoint was not taken. The wetland is approximately 15 feet west of the railway. No photos were taken of this small seep.**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **A wetland datapoint was not taken.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-24-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>0</u> (A)	<u>0</u> (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).
A wetland datapoint was not taken; however, typical wetland vegetation in this region includes: *Juncus effusus*, *Microstegium vimineum*, *Boehmeria cylindrica*, and *Saururus cernuus*.

SOIL

Sampling Point: 02-WTL-24-wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks: **A soil core was not obtained. The soils fall within the following map unit: Grist Mill sandy loam, 0 to 25 percent slopes. This map unit consists of well drained soils.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-24-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Colchester Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-24-upl
 Investigator(s): D. Mitchell & K. Astroth Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): CSX ballast toe Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): LRR: S, MLRA: 133A Lat: 38.675217 Long: -77.22989 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam, 0 to 25 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: An upland datapoint was not taken. The upland point is adjacent to the railroad ballast.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **An upland datapoint was not able to be taken. The upland point is adjacent to the railroad ballast. Soils/gravel along the railroad ballast are typically well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-24-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>0</u>	(A) <u>0</u> (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation _____

2 - Dominance Test is >50% _____

3 - Prevalence Index is ≤3.0¹ _____

_____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).
An upland datapoint was not able to be taken; however, typical upland vegetation along the railway includes: foxtail, *Solidago* spp., *Lespedeza* spp., *Lonicera japonica*, and mullein.

SOIL

Sampling Point: 02-WTL-24-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **A soil core was not obtained. This upland point is adjacent to the railway. Soils typically contain gravel/rock from the railway ballast and may be restrictive at a shallow depth. The soils fall within the following map unit: Grist Mill sandy loam, 0 to 25 percent slopes. This map unit consists of well drained soils.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Colchester/Fairfax Sampling Date: July 21, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-25-wet
 Investigator(s): L. Postaski & R. Mangum & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of ballast Local relief (concave, convex, none): Concave Slope (%): 10%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.674312 Long: -77.230835 Datum: NAD-1983
 Soil Map Unit Name: Sassafras-Marumsc complex, 7 to 15 percent slopes NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland is influenced by drainage off of ballast.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u>X</u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u>X</u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u>X</u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u>X</u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-25-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Quercus phellos</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>
2 <u>Liquidambar styraciflua</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

70 = Total Cover
 50% of total cover: 35 20% of total cover: 14

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Quercus phellos</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
2 _____			
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

10 = Total Cover
 50% of total cover: 5 20% of total cover: 2

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Microstegium vimineum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>
2 <u>Rubus argutus</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			
9 _____			
10 _____			
11 _____			
12 _____			

45 = Total Cover
 50% of total cover: 22.5 20% of total cover: 9

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Smilax rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2 <u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
3 _____			
4 _____			
5 _____			

15 = Total Cover
 50% of total cover: 7.5 20% of total cover: 3

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across all Strata: 7 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 85.71% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>50</u>	x 2 = <u>100</u>
FAC species <u>85</u>	x 3 = <u>255</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>140</u> (A)	<u>375</u> (B)

Prevalence Index = B/A = 2.68

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 02-WTL-25-wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR	5.0 / 3	100					Sandy clay loam	
5-12	10YR	5 / 2	80	2.5YR	4 / 6	20		Sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-25-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 7

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-25-wet Wetland vegetation.



02-WTL-25-wet Sparsely vegetated surface with surface soil cracks.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Colchester/Fairfax Sampling Date: July 21, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-25-upl
 Investigator(s): L. Postaski & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): CSX ballast toe Local relief (concave, convex, none): Convex Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.674307 Long: -77.230632 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam, 0 to 25 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks: **The upland point is located on the ballast of the railroad. No vegetation present. Access to soils restricted by compacted gravel layer.**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	<u> </u> Surface Soil Cracks (B6)
<u> </u> Surface Water (A1)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> High Water Table (A2)	<u> </u> Drainage Patterns (B10)
<u> </u> Saturation (A3)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Water-Stained Leaves (B9)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Aquatic Fauna (B13)	
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:		Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>		
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>		
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is moderately well-drained near the CSX ballast.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-25-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>0</u> (A)	<u>0</u> (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).
The upland point is located on the ballast of the railroad. No vegetation present.

SOIL

Sampling Point: 02-WTL-25-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
								Gravel on RR Ballast

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: Gravel
 Depth (inches): 0 (surface)

Hydric soil present? Yes No

Remarks: **The upland point is located on the ballast of the railroad. Access to soils restricted by compacted gravel layer.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-26-wet-1
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.674103 Long: -77.230557 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Data point located on north side of 04-B-STR-11. High water table is present with saturated soil. Signs of recent inundation. Wetland is a depression along railroad ballast and ROW for pipeline. Wetland drains to the south into stream and continues south into pasture outside of 100 foot study area. Field Sheet 04-B-WTL-10-wetDP1	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u>X</u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **High water table present with saturated soil. Signs of recent inundation. Wetland includes a portion of 04-B-STR-11. Wetland drains to the south into stream and continues south into pasture outside of study area. Stream 11 bisects this wetland and flows east. At Culvert 19, Stream 11 creates a pool and flows into Culvert 20. Culvert 20 is submerged and appears to be blocked. During storm events Culvert 20 would not have the ability to carry all water. Water would fill the pool and flow into Wetland 10 to the north and south.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-26-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Liquidambar styraciflua</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2 <u>Quercus phellos</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Acer rubrum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
4 <u>Sassafras albidum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
5 _____				Prevalence Index worksheet
6 _____				
7 _____				
8 _____				
<u>85</u> = Total Cover				
50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Liquidambar styraciflua</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>15</u> = Total Cover				
50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>0</u> = Total Cover				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Toxicodendron radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
<u>5</u> = Total Cover				
50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Hydrophytic vegetation present? Yes <u>X</u> No _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
 Total Number of Dominant Species Across all Strata: 4 (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet
 Total % Cover of: _____ Multiply by: _____
 OBL species 0 x 1 = 0
 FACW species 30 x 2 = 60
 FAC species 70 x 3 = 210
 FACU species 5 x 4 = 20
 UPL species 0 x 5 = 0
 Column totals 105 (A) 290 (B)
 Prevalence Index = B/A = 2.76

Hydrophytic Vegetation Indicators:
 ___ 1 -Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Remarks: (If observed, list morphological adaptations below).
Recent inundation has created a mud flat here with no herbaceous vegetation.

SOIL

Sampling Point: **02-WTL-26-wet-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 1	65	7.5YR 5 / 8	35			clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input checked="" type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-26-wet-1

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-26-wet-1 Area with no herbaceous layer.



02-WTL-26-wet-1 Typical habitat in wetland.



02-WTL-26-wet-1 Wetland habitat.



04-WTL-10-wet Pool below culvert

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-26-upl-1
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 10%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.674041 Long: -77.230471 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Data point on toe of slope from ballast of railroad, adjacent to WTL-10. Soil is moderately well drained. Field Sheet 04-B-WTL-10-UpDP1	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil is moderately well drained. Point is on hillslope just along pipeline corridor.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-26-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>9</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>44.44%</u> (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>20</u> = Total Cover 50% of total cover <u>10</u> 20% of total cover: <u>4</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>115</u> (A) <u>390</u> (B) Prevalence Index = B/A = <u>3.39</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Liquidambar styraciflua</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Sassafras albidum</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
3 <u>Fagus sylvatica</u>	<u>5</u>	<u>N</u>	<u></u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>65</u> = Total Cover 50% of total cover <u>32.5</u> 20% of total cover: <u>13</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Lonicera japonica</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Solidago spp.</u>	<u>5</u>	<u>Y</u>	<u></u>	
3 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
4 <u>Quercus phellos</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
5 <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
6 <u>Pteridium aquilinum</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>40</u> = Total Cover 50% of total cover <u>20</u> 20% of total cover: <u>8</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Hydrophytic Vegetation Indicators:

- 1 -Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0
- Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

- Tree** - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/shrub** - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
- Woody vines** - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 3	100					loam	lots of organics

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Dry crumbly soils.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-26-wet-2
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.674122 Long: -77.230579 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: In a low area long pipeline corridor. One of many lower areas along the corridor at the terrain fluctuates from upland to wetland. Field Sheet 04-B-WTL-10-wetDP2	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u>X</u> No <u> </u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **High water table as is typical with the lower areas in this area.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-26-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>1</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of: _____ Multiply by: _____	
6 _____				OBL species <u>10</u> x 1 = <u>10</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>80</u> x 3 = <u>240</u>	
				FACU species <u>0</u> x 4 = <u>0</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>90</u> (A) <u>250</u> (B)	
_____ = Total Cover				Prevalence Index = B/A = <u>2.78</u>	
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators:	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				<u>1</u> -Rapid Test for Hydrophytic Vegetation	
1 <u>none</u>				<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
2 _____				<input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0	
3 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
4 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5 _____				Definitions of Four Vegetation Strata:	
6 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
7 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
8 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
9 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
10 _____					
11 _____					
12 _____					
_____ = Total Cover				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
50% of total cover <u>0</u> 20% of total cover: <u>0</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Microstegium vimineum</u>	<u>80</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Murdannia keisak</u>	<u>10</u>	<u>N</u>	<u>OBL</u>		
3 <u>Bidens spp.</u>	<u>5</u>	<u>N</u>			
4 <u>Aster robusso</u>	<u>5</u>	<u>N</u>			
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
_____ = Total Cover					
50% of total cover <u>50</u> 20% of total cover: <u>20</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
_____ = Total Cover					
50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Aster has little white flowers in clump with leaves approximately 1 cm.

SOIL

Sampling Point: **02-WTL-26-wet-2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 2	90	5YR 4 / 3	10			clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Mottles seem to increase with depth 5-15%.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-26-upl-2
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.67374 Long: -77.230707 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Area is in pipeline corridor north of wetland data point. Field Sheet 04-B-WTL-10-UpDP2	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **No evidence of inundation or flow like other areas nearby.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-26-upl-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Quercus phellos</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2 <u>Pinus echinata</u>	<u>20</u>	<u>Y</u>		Total Number of Dominant Species Across all Strata: <u>7</u> (B)	
3 <u>Quercus alba</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>14.29%</u> (A/B)	
4 <u>Liquidambar styraciflua</u>	<u>15</u>	<u>N</u>	<u>FAC</u>		
5 <u>Fagus sylvatica</u>	<u>10</u>	<u>N</u>			
6					
7					
8					
<u>85</u> = Total Cover 50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Quercus rubra</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	OBL species <u>0</u> x 1 = <u>0</u>	
2 <u>Hickory spp</u>	<u>5</u>	<u>Y</u>		FACW species <u>20</u> x 2 = <u>40</u>	
3				FAC species <u>15</u> x 3 = <u>45</u>	
4				FACU species <u>50</u> x 4 = <u>200</u>	
5				UPL species <u>0</u> x 5 = <u>0</u>	
6				Column totals <u>85</u> (A) <u>285</u> (B)	
7				Prevalence Index = B/A = <u>3.35</u>	
8				Hydrophytic Vegetation Indicators:	
<u>20</u> = Total Cover 50% of total cover <u>10</u> 20% of total cover: <u>4</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Quercus rubra</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
2 <u>Lonicera japonica</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>		
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
<u>15</u> = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1					
2					
3					
4					
5					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-5	7.5YR 4 / 6	100						sandy silt

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: compaction and rock
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Surface is rocky and dry.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-27-wet
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.6722156 Long: -77.2330094 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland is depression south of railroad tracks between ballast and pasture fence row. Water table is high, soil is saturated, and hydric vegetation is present. In ROW for gas line, one of many similar features as the terrain rolls between higher ground and lower ground with wetlands. Field Sheet: 04-B-WTL-09-wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Wetland is a depression on south side of railroad between ballast and fence for pasture. Water table is at surface and soil is saturated. Obligate vegetation present.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-27-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2 _____				Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)	
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of: _____ Multiply by: _____	
6 _____				OBL species <u>35</u> x 1 = <u>35</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>30</u> x 3 = <u>90</u>	
	<u>0</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>65</u> (A) <u>125</u> (B)	
1 <u>none</u>				Prevalence Index = B/A = <u>1.92</u>	
2 _____				Hydrophytic Vegetation Indicators:	
3 _____				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
4 _____				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
5 _____				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____					
8 _____					
	<u>0</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>		Definitions of Four Vegetation Strata:	
Herb Stratum (Plot Size: <u>5' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>Murdannia keisak</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 <u>Microstegium vimineum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 <u>Bidens spp.</u>	<u>20</u>	<u>Y</u>		Woody vines - All woody vines greater than 3.28 ft in height.	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>85</u> = Total Cover				
	50% of total cover <u>42.5</u>	20% of total cover: <u>17</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).
Red maple and sweet gum rooted in fence row outside of wetland. *Murdannia keisak* helps delineate boundary. Uplands have a dominance of *Solidago* and a few bracken fern.

SOIL

Sampling Point: **02-WTL-27-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3 / 1	100					sandy loam	
2-6	10YR 3 / 1	95	7.5YR 4 / 6	5			clay loam	
6-12	10YR 6 / 1	95	7.5YR 4 / 6	5			silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-27-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-27-wet Herbaceous habitat.



02-WTL-27-wet Wetland habitat near CSX ballast.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Fairfax County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-27-upl
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 15%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.672145 Long: -77.233078 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Upland data point on south side of railroad, just below ballast on a slight hillslope. Soil is moderately drained. Field Sheet: 04-B-WTL-09-UpDP1	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil is moderately drained. Sample point adjacent to wetland 04-B-WTL-09. Point is a higher area between two wetlands 08 & 09.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-27-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2 _____				Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>40.00%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
0 = Total Cover				Prevalence Index worksheet	
50% of total cover <u>0</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>0</u>				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>10</u> x 2 = <u>20</u>	
				FAC species <u>10</u> x 3 = <u>30</u>	
				FACU species <u>20</u> x 4 = <u>80</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>40</u> (A) <u>130</u> (B)	
				Prevalence Index = B/A = <u>3.25</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>none</u>				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
2 _____				<u> </u> 2 - Dominance Test is >50%	
3 _____				<u> </u> 3 - Prevalence Index is ≤3.0	
4 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
0 = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>0</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>0</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Bidens spp.</u>	<u>15</u>	<u>Y</u>			
2 <u>Lonicera japonica</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>		
3 <u>Microstegium vimineum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
4 <u>Solidago spp.</u>	<u>10</u>	<u>Y</u>			
5 <u>Dichanthelium clandestinum</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>		
6 <u>Pteridium aquilinum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
65 = Total Cover					
50% of total cover <u>32.5</u>					
20% of total cover: <u>13</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____	
2 _____					
3 _____					
4 _____					
5 _____					
0 = Total Cover					
50% of total cover <u>0</u>					
20% of total cover: <u>0</u>					
Remarks: (If observed, list morphological adaptations below).					

SOIL

Sampling Point: **02-WTL-27-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
								See below.

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X** _____

Remarks: **Soils seem disturbed by railroad activity. Portions of profile appears to be 10YR 5/2 with a few distinct mottles of 7.5YR 4/6. In addition, majority of soil in black coarse sandy material seen commonly along railroad. Soil is dry (not saturated).**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-28-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u>	(A)
2 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>4</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>20</u> x 1 = <u>20</u>	
7 _____				FACW species <u>10</u> x 2 = <u>20</u>	
8 _____				FAC species <u>70</u> x 3 = <u>210</u>	
	<u>40</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
	50% of total cover <u>20</u>	20% of total cover: <u>8</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>100</u> (A) <u>250</u> (B)	
1 <u>none</u>				Prevalence Index = B/A = <u>2.50</u>	
2 _____				Hydrophytic Vegetation Indicators:	
3 _____				<u>1</u> -Rapid Test for Hydrophytic Vegetation	
4 _____				<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
5 _____				<input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8 _____				Definitions of Four Vegetation Strata:	
9 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
10 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
11 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
12 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
	<u>0</u> = Total Cover			Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Microstegium vimineum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Murdannia keisak</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>		
3 <u>Dichantherium clandestinum</u>	<u>10</u>	<u>N</u>	<u>FACW</u>		
4 <u>Bidens spp.</u>	<u>10</u>	<u>N</u>			
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>70</u> = Total Cover				
	50% of total cover <u>35</u>	20% of total cover: <u>14</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			
Remarks: (If observed, list morphological adaptations below).					
PEM along tracks becoming PFO to the east.					

SOIL

Sampling Point: **02-WTL-28-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹		
0-4	10YR	3 / 1	100					silty clay	mucky
4-12+	10YR	5 / 1	85	7.5YR	5 / 8	15		silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Many soil samples near the railroad have the black layer of coarse sand that has a unique (maybe petroleum) odor. This soil is found along the fill portion of the railroad and likely is due to railroad activity.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-28-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-28-wet Typical PEM habitat.



02-WTL-28-wet PFO habitat in background (out of study area).



02-WTL-28-wet Culvert entering wetland.



02-WTL-28-wet Wetland parallels CSX.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-28-upl
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope (east of ballast) Local relief (concave, convex, none): Convex Slope (%): 15%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.671707 Long: -77.233810 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Data point is located adjacent to 04-B-WTL-08, located at toe of slope of ballast. Field sheet 04-B-WTL-08-DPUP1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Data point just east of ballast at toe of slope. Moderately drained soil.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-28-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>25.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>55</u> (A) <u>175</u> (B) Prevalence Index = B/A = <u>3.18</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Juniperus virginiana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Pyrus calleryana</u>	<u>5</u>	<u>Y</u>		
3				
4				
5				
6				
7				
8				
50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Microstegium vimineum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Solidago spp.</u>	<u>15</u>	<u>Y</u>		
3 <u>Lonicera japonica</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4 <u>Dichanthelium clandestinum</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>30</u> 20% of total cover: <u>12</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.				
Hydrophytic vegetation present? Yes <u>X</u> No _____				
Remarks: (If observed, list morphological adaptations below).				

SOIL

Sampling Point: **02-WTL-28-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
								See below

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Upland area has black, coarse sandy coal-like material likely from railroad activity or fill.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-29-wet
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.671479 Long: -77.23406 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Area appears to have many seep areas. See nearby streams 8 & 9. This area is not directly connected to these streams, but likely has an underground hydrological connection. Area may be close enough to perennial stream outside study area to be considered jurisdictional. At the surface this PEM wetland appears isolated. Field Sheet 04-B-WTL-07-wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>8</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **In some areas the ground is saturated at the surface. At the data point the saturation is not as high - crayfish burrows.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-29-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>25</u> x 1 = <u>25</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>50</u> (A) <u>100</u> (B) Prevalence Index = B/A = <u>2.00</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Microstegium vimineum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Bidens spp.</u>	<u>15</u>	<u>Y</u>	<u>NI</u>	
3 <u>Murdannia keisak</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	
4 <u>Iris virginica</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5 <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6				
7				
8				
9				
10				
11				
12				
65 = Total Cover 50% of total cover <u>32.5</u> 20% of total cover: <u>13</u>				Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.				
Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Adjacent to forested area with red maple, sweet gum, and willow oak. Boundary of wetland is entirely PEM.

SOIL

Sampling Point: **02-WTL-29-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹		
0-1	10YR 4 / 1		100					silty clay
1-4	5YR 5 / 8		100					clay
4-12	10YR 5 / 1		65	5YR 5 / 8	35			clay many distinct mottles

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-29-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-29-wet Wetland data point



02-WTL-29-wet Wetland soil core

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-29-upl
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.671367 Long: -77.234208 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Area between rail and wetland. Wetland is in gas line corridor. Field sheet 04-B-WTL-07-UP DP1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **On toe of slope of ballast. Moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-29-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Catalpa speciosa</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>60</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>3.33</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>none</u>					Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Microstegium vimineum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic vegetation present? Yes <u>X</u> No _____
2 <u>Polygonum spp. (Large purple)</u>	<u>30</u>	<u>Y</u>			
3 <u>Lonicera japonica</u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
4 <u>Bidens spp.</u>	<u>5</u>	<u>N</u>			
5 <u>Rubus spp.</u>	<u>5</u>	<u>N</u>			
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 _____					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
While vegetation is classified as hydrophytic, it is very distinct from wetland area.

SOIL

Sampling Point: **02-WTL-29-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12								Disturbed black fill, coal-like

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Black coal-dust like fill material.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Lorton Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-30-wet
 Investigator(s): D. Mitchell & K. Astroth Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillside seep Local relief (concave, convex, none): Concave Slope (%): NA
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.671118 Long: -77.234637 Datum: NAD-1983
 Soil Map Unit Name: Elkton silt loam, 0 to 2 percent slopes, occasionally ponded. NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
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Remarks: **This is a small seep adjacent to the railway. A wetland datapoint was not taken. No photos were taken of this small seep.**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **A wetland datapoint was not taken.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-30-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>0</u> (A)	<u>0</u> (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤ 3.0 ¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).
A wetland datapoint was not taken; however, typical wetland vegetation in this region includes: *Juncus effusus*, *Microstegium vimineum*, *Boehmeria cylindrica*, and *Saururus cernuus*.

SOIL

Sampling Point: 02-WTL-30-wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks: **A soil core was not obtained. The soils fall within the following map unit: Elkton silt loam, 0 to 2 percent slopes, occasionally ponded. Elkton soils are poorly drained.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-30-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Lorton Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-30-upl
 Investigator(s): D. Mitchell & K. Astroth Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): CSX ballast toe Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): LRR: S, MLRA: 133A Lat: 38.671131 Long: -77.234672 Datum: NAD-1983
 Soil Map Unit Name: Urban land NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: An upland datapoint was not taken. The upland point is adjacent to the railroad ballast.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	_____ Surface Soil Cracks (B6)
_____ Surface Water (A1)	_____ Sparsely Vegetated Concave Surface (B8)
_____ High Water Table (A2)	_____ Drainage Patterns (B10)
_____ Saturation (A3)	_____ Moss Trim Lines (B16)
_____ Water Marks (B1)	_____ Dry-Season Water Table (C2)
_____ Sediment Deposits (B2)	_____ Crayfish Burrows (C8)
_____ Drift Deposits (B3)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Algal Mat or Crust (B4)	_____ Geomorphic Position (D2)
_____ Iron Deposits (B5)	_____ Shallow Aquitard (D3)
_____ Inundation Visible on Aerial Imagery (B7)	_____ FAC-Neutral Test (D5)
_____ Water-Stained Leaves (B9)	_____ Sphagnum moss (D8) (LRR T, U)
_____ Aquatic Fauna (B13)	
_____ Marl Deposits (B15) (LRR U)	
_____ Hydrogen Sulfide Odor (C1)	
_____ Oxidized Rhizospheres on Living Roots (C3)	
_____ Presence of Reduced Iron (C4)	
_____ Recent Iron Reduction in Tilled Soils (C6)	
_____ Thin Muck Surface (C7)	
_____ Other (Explain in Remarks)	

Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **An upland datapoint was not able to be taken. The upland point is adjacent to the railroad ballast. Soils/gravel along the railroad ballast are typically well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-30-up1**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>0</u> (A)	<u>0</u> (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).
An upland datapoint was not able to be taken; however, typical upland vegetation along the railway includes: foxtail, *Solidago* spp., *Lespedeza* spp., *Lonicera japonica*, and mullein.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **A soil core was not obtained. This upland point is adjacent to the railway. Soils typically contain gravel/rock from the railway ballast and may be restrictive at a shallow depth. The soils fall within the following map unit: Urban land. This map unit consists of nearly level to moderately steep areas where the soils have been altered or obscured by urban work and structures.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-31-wet
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.669599 Long: -77.236392 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Remarks: Hydrology comes from under railroad via Culvert 14 and flows into wetland where wetland spreads out through the gas line corridor. Wetland extends into the forested area east of gas line corridor and contains ephemeral streams within its boundary. This wetland extends beyond the study area to the east. Field Sheet 04-B-WTL-06-wetDP1. Lat/long from GE.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> X </u> High Water Table (A2)	<u> </u> Aquatic Fauna (B13)
<u> X </u> Saturation (A3)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Water Marks (B1)	<u> </u> Marl Deposits (B15) (LRR U)
<u> </u> Sediment Deposits (B2)	<u> </u> Hydrogen Sulfide Odor (C1)
<u> </u> Drift Deposits (B3)	<u> </u> Oxidized Rhizospheres on Living Roots (C3)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Presence of Reduced Iron (C4)
<u> </u> Iron Deposits (B5)	<u> </u> Recent Iron Reduction in Tilled Soils (C6)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Thin Muck Surface (C7)
<u> X </u> Water-Stained Leaves (B9)	<u> </u> Other (Explain in Remarks)
	<u> </u> Dry-Season Water Table (C2)
	<u> </u> Crayfish Burrows (C8)
	<u> </u> Saturation Visible on Aerial Imagery (C9)
	<u> </u> Geomorphic Position (D2)
	<u> </u> Shallow Aquitard (D3)
	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water table present? Yes <u> X </u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u> X </u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Wetland receives drainage from culvert. Water is at surface in some areas of the wetland. Drainage flows to the east into forested area and out of 100-foot study area.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-31-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2 _____				Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>30</u> = Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>none</u>				OBL species <u>70</u> x 1 = <u>70</u>	
2 _____				FACW species <u>3</u> x 2 = <u>6</u>	
3 _____				FAC species <u>50</u> x 3 = <u>150</u>	
4 _____				FACU species <u>0</u> x 4 = <u>0</u>	
5 _____				UPL species <u>0</u> x 5 = <u>0</u>	
6 _____				Column totals <u>123</u> (A) <u>226</u> (B)	
7 _____				Prevalence Index = B/A = <u>1.84</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Murdannia keisak</u>	<u>70</u>	<u>Y</u>	<u>OBL</u>	Definitions of Four Vegetation Strata:	
2 <u>Microstegium vimineum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 <u>Polygonum pensylvanicum</u>	<u>5</u>	<u>N</u>		Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 <u>Boehmeria cylindrica</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 <u>Carex spp.</u>	<u>2</u>	<u>N</u>		Woody vines - All woody vines greater than 3.28 ft in height.	
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>100</u> = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Murdannia keisak is dominant vegetation at data point and helps draw delineation boundary.

SOIL

Sampling Point: **02-WTL-31-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 1	90	7.5YR 5 / 8	10			silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-31-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	3	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-31-wet Wetland data point.



02-WTL-31-wet Wetland soil core.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-31-upl
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): ballast slope Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.669777 Long: -77.236532 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Moderately well drained upland data point near ballast slope. Field Sheet: 04-B-WTL-06-UPP1 UP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area slightly up slope towards tracks with dryer soils and less hydric plants.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-31-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2 _____				Total Number of Dominant Species Across all Strata: <u>6</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>190</u> x 3 = <u>570</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>210</u> (A) <u>650</u> (B) Prevalence Index = B/A = <u>3.10</u>
5 _____				
6 _____				
7 _____				
8 _____				
50 = Total Cover				
50% of total cover <u>25</u> 20% of total cover: <u>10</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Liquidambar styraciflua</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Ulmus rubra</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
60 = Total Cover				
50% of total cover <u>30</u> 20% of total cover: <u>12</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Microstegium vimineum</u>	<u>55</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Lonicera japonica</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3 <u>Verbesina occidentalis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
75 = Total Cover				
50% of total cover <u>37.5</u> 20% of total cover: <u>15</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Campsis radicans</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Rubus spp.</u>	<u>20</u>	<u>Y</u>		
3 <u>Toxicodendron radicans</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4 _____				
5 _____				
45 = Total Cover				
50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-31-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2 / 2	100					loam	high organics
4-10		100						dark gritty coal like layer
10-12	10YR 6 / 2	95	7.5YR 5 / 8	5				few faint mottles

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **4-10" not in Munsell. Soils are not reduced. The B horizon is an odd black layer likely a remenant of railroad activity. Not wet.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-32-wet
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope/seep Local relief (concave, convex, none): Concave Slope (%): 25%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.666188 Long: -77.241548 Datum: NAD-1983
 Soil Map Unit Name: Dumfries sandy loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Begins in seep area on hillside leading down to Occoquan River. PEM extends around gas line station and across road and flows into Occoquan River. Although the gravel road crosses through the wetland and is gravel, it is still considered part of the wetland. Field Sheet 04-B-WTL-05-wet1 .	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Seep on hillside within pipeline corridor. On downslope 75m southwest of Occoquan River near Marina Way. Soil is saturated. Wetland has a high water table. Obligate vegetation present. Wetland is located within valley with swales sloping down to wetland. Wetland continues to Occoquan.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-32-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)	
2 <u>Platanus occidentalis</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>4</u> (B)	
3 <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>80</u> x 1 = <u>80</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>23</u> x 3 = <u>69</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>133</u> (A) <u>209</u> (B) Prevalence Index = B/A = <u>1.57</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
<u>35</u> = Total Cover 50% of total cover <u>17.5</u> 20% of total cover: <u>7</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>		
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Murdannia keisak</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____	
2 <u>Microstegium vimineum</u>	<u>8</u>	<u>N</u>	<u>FAC</u>		
3 <u>Polygonum pensylvanicum</u>	<u>5</u>	<u>N</u>			
4 <u>Boehmeria cylindrica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
5 <u>Bidens spp.</u>	<u>2</u>	<u>N</u>			
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>100</u> = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).

Obligate vegetation present.

SOIL

Sampling Point: **02-WTL-32-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	7.5YR 4 / 1	100					loamy sand	
4-12	7.5YR 6 / 1	70	10YR 5 / 6	30			clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-32-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-32-wet Wetland with Occoquan River in background.



02-WTL-32-wet Seep water in wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-32-upl
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 20%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.666257 Long: -77.241577 Datum: NAD-1983
 Soil Map Unit Name: Dumfries sandy loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the upland point near wetland 04-B-WTL-05. Field sheet 04-B-WTL-05-UPDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hillslope leading down from ballast.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-32-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Robinia pseudoacacia</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>7</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>28.57%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of: _____	Multiply by: _____
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>25</u> x 2 = <u>50</u>	
8 _____				FAC species <u>5</u> x 3 = <u>15</u>	
	<u>30</u> = Total Cover			FACU species <u>20</u> x 4 = <u>80</u>	
	50% of total cover <u>15</u>	20% of total cover: <u>6</u>		UPL species <u>40</u> x 5 = <u>200</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>90</u> (A) <u>345</u> (B)	
1 <u>Robinia pseudoacacia</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>	Prevalence Index = B/A = <u>3.83</u>	
2 <u>Prunus serotina</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
3 <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5 _____					
6 _____					
7 _____					
8 _____				Definitions of Four Vegetation Strata:	
	<u>30</u> = Total Cover			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
	50% of total cover <u>15</u>	20% of total cover: <u>6</u>		Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
1 <u>Bidens spp.</u>	<u>20</u>	<u>Y</u>		Woody vines - All woody vines greater than 3.28 ft in height.	
2 <u>Persicaria lapathifolia</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic vegetation present? Yes <u>X</u> No _____	
3 <u>Lonicera japonica</u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
4 <u>Polygonum spp.</u>	<u>10</u>	<u>N</u>			
5 <u>Persicaria perfoliata</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
6 <u>Rubus spp.</u>	<u>5</u>	<u>N</u>			
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>65</u> = Total Cover				
	50% of total cover <u>32.5</u>	20% of total cover: <u>13</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Vitus spp.</u>	<u>5</u>	<u>Y</u>			
2 _____					
3 _____					
4 _____					
5 _____					
	<u>5</u> = Total Cover				
	50% of total cover <u>2.5</u>	20% of total cover: <u>1</u>			

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-32-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 5 / 4	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Moderately well drained soil. Dryer than wetland soil with more organics.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-33-wet
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.662050 Long: -77.246048 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Small PEM at head of 04-B-STR-06. Field Sheet 04-B-WTL-04-wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>10"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Wetland abuts 04-B-STR-06. Slight depression potentially disturbed by powerline ROW.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-33-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>40</u> x 1 = <u>40</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>160</u> (B) Prevalence Index = B/A = <u>2.00</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Microstegium vimineum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Murdannia keisak</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Persicaria setacea</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4 <u>Bidens spp.</u>	<u>5</u>	<u>N</u>		
5				
6				
7				
8				
9				
10				
11				
12				
85 = Total Cover 50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>				Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
				Hydrophytic vegetation present? Yes <u>X</u> No <u> </u>

Remarks: (If observed, list morphological adaptations below).
All emergents. Solidago present in some areas of this small PEM wetland.

SOIL

Sampling Point: **02-WTL-33-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹		
0-3	10YR	3 / 1	100					clay loam light organic content
3-10	10YR	4 / 1	95	7.5YR	5 / 8	5		sandy clay less organics
10+	10YR	7 / 3	95	7.5YR	5 / 8	5		sandy clay

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are very light and reduced at 10". Around 14" is refusal of some type.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-33-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



04-WTL-04-wet

Wetland data point

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-33-upl
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 20%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.662243 Long: -77.245765 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is a moderately well drained upland point near wetland 04-B-WTL-04-upl. Field Sheet: 04-B-WTL-04-UPDP1, Up 1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland point adjacent to 04-B-WTL-04. Moderately well drained soils.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-33-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1 <u>Ulmus rubra</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)			
2 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>8</u> (B)			
3 <u>Acer rubrum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>87.50%</u> (A/B)			
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>25</u> x 2 = <u>50</u> FAC species <u>125</u> x 3 = <u>375</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>155</u> (A) <u>445</u> (B) Prevalence Index = B/A = <u>2.87</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
5 _____							
6 _____							
7 _____							
8 _____							
_____ = Total Cover							
50% of total cover <u>30</u>							
20% of total cover: <u>12</u>							
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status				
1 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>				
2 <u>Platanus occidentalis</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>				
3 _____							
4 _____							
5 _____							
6 _____							
7 _____							
8 _____							
_____ = Total Cover							
50% of total cover <u>12.5</u>							
20% of total cover: <u>5</u>							
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status				
1 <u>Microstegium vimineum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____			
2 <u>Dichanthelium clandestinum</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>				
3 _____							
4 _____							
5 _____							
6 _____							
7 _____							
8 _____							
9 _____							
10 _____							
11 _____							
12 _____							
_____ = Total Cover							
50% of total cover <u>25</u>							
20% of total cover: <u>10</u>							
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status				
1 <u>Toxicodendron radicans</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>				
2 <u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>				
3 <u>Campsis radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>				
4 _____							
5 _____							
_____ = Total Cover							
50% of total cover <u>10</u>							
20% of total cover: <u>4</u>							

Remarks: (If observed, list morphological adaptations below).
Wetland vegetation is present, but composition has changed. *Murdannia keisak* is lacking and *Microstegium vimineum* is more prominent with *Dichanthelium clandestinum*.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2 / 2	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Sandy loam soils appear to be well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 19, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-34-wet
 Investigator(s): D. Mitchell, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): LTT: P, MLRA: 133A Lat: 38.658148 Long: -77.248264 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland appears to be sediment detention pond built for nearby roads and train station. A small perennial stream flows through the north end. A large drain is present above culvert 5. Wetland is in a depression that is 10-15 feet below regular ground surface. Field Sheet: 04-B-WTL-03 WET1.	

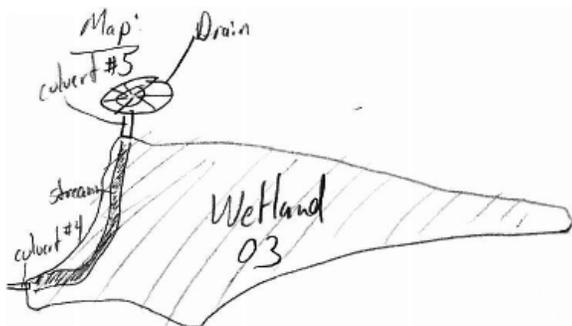
HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-34-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Cornus amomum</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Leersia oryzoides</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Persicaria sagittata</u>	<u>3</u>	<u>N</u>	<u>OBL</u>	
3 <u>Typha latifolia</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>47</u> 20% of total cover: <u>18.8</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-34-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 3 / 1	100					silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input checked="" type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Very saturated and loose.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-34-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-34-wet Wetland data point



02-WTL-34-wet Culvert and drain within wetland



02-WTL-34-wet Upland data point

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 19, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-34-upl
 Investigator(s): D. Mitchell, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.65818 Long: -77.248323 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland areas are distinct as hillsides around 04-WET-03 are relatively steep. Area is very well drained. Field Sheet: 04-B-WTL-03-UPL1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches):	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland area on hillside adjacent 04-WTL-03 is very well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-34-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u><i>Pyrus calleryana</i></u>	<u>60</u>	<u>Y</u>		Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>6</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
2 <u><i>Acer negundo</i></u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3 <u><i>Diospyros virginiana</i></u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>47</u> x 3 = <u>141</u> FACU species <u>35</u> x 4 = <u>140</u> UPL species <u>2</u> x 5 = <u>10</u> Column totals <u>84</u> (A) <u>291</u> (B) Prevalence Index = B/A = <u>3.46</u> Hydrophytic Vegetation Indicators: ___ 1 -Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u><i>Acer negundo</i></u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2 <u><i>Diospyros virginiana</i></u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>15</u> = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u><i>Lonicera japonica</i></u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2 <u><i>Poaceae spp.</i></u>	<u>5</u>	<u>N</u>		
3 <u><i>Ligustrum vulgare</i></u>	<u>2</u>	<u>N</u>	<u>UPL</u>	
4 <u><i>Acer negundo</i></u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
5 <u><i>Cirsium spp.</i></u>	<u>1</u>	<u>N</u>		
6 <u><i>Rubus spp.</i></u>	<u>1</u>	<u>N</u>		
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>40</u> = Total Cover 50% of total cover <u>20</u> 20% of total cover: <u>8</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes _____ No <u>X</u>
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u><i>Ampelopsis brevipedunculata</i></u>	<u>20</u>	<u>Y</u>		
2 <u><i>Lonicera japonica</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3 <u><i>Toxicodendron radicans</i></u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
4 _____				
5 _____				
<u>26</u> = Total Cover 50% of total cover <u>13</u> 20% of total cover: <u>5.2</u>				

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-34-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 4 / 6	100					silt loam	
5+								auger refusal - ballast rock

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: compacted soil
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils very red and very compacted past 4-5"**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 19, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-35-wet
 Investigator(s): D. Mitchell, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Stream terrace Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.651808 Long: -77.25072 Datum: NAD-1983
 Soil Map Unit Name: Hatboro-Codorus complex NWI classification: PFO/PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wide area adjacent to Stream 2 connects to Stream 2 to the east. Diverse vegetation, mostly PEM, some PFO. Field Sheet: 04Bwetland2 up dp 1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u>X</u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u>X</u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>10</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **High saturation in low areas. Cattails are present & evidence of inundation is located in these areas. Hydrology seems to be due to groundwater & stormwater runoff, yet no distinct evidence of a seep or spring exists.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-35-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Salix caroliniana</u>	<u>12</u>	<u>Y</u>	<u>OBL</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 <u>Catalpa speciosa</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>14</u> = Total Cover 50% of total cover <u>7</u> 20% of total cover: <u>2.8</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Phalaris arundinacea</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 <u>Saururus cernuus</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Microstegium vimineum</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
4 <u>Phaseolus polystachios?</u>	<u>15</u>	<u>N</u>		
5 <u>Leersia oryzoides</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
6 <u>Persicaria sagittata</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
7 <u>Pilea pumila</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>108</u> = Total Cover 50% of total cover <u>54</u> 20% of total cover: <u>21.6</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Lonicera japonica</u>	<u>2</u>		<u>FACU</u>	
2 <u>Parthenocissus quinquefolia</u>	<u>1</u>		<u>FACU</u>	
3 _____				
4 _____				
5 _____				
<u>3</u> = Total Cover 50% of total cover <u>1.5</u> 20% of total cover: <u>0.6</u>				

Remarks: (If observed, list morphological adaptations below).
Alluvial wet meadow with scattered trees.

SOIL

Sampling Point: **02-WTL-35-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-2	10YR 3 / 2	100					clay loam	
2-12+	10YR 3 / 1	80	5YR 4 / 6	20			clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are 6/1 in lower areas that show stronger signs of inundation.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-35-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-35-wet Wetland data point



02-WTL-35-wet Upland data point

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 19, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-35-upl
 Investigator(s): D. Mitchell, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 20%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.652069 Long: -77.25055 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Just upslope from wetland data point. Vegetation becomes less hydric & soils show more signs of organic matter and less reduction. Field Sheet: 04Bwetland2 up dp 1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area moderately well drained.**

SOIL

Sampling Point: **02-WTL-35-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-2	10YR 3 / 3	100					sand	lots of organic matter
2-5	10YR 5 / 1	60	7.5YR 5 / 8	40			sandy clay	
5								refusal - ballast rock

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): 5 inches Hydric soil present? Yes _____ No X

Remarks: **Soils affected by RR ballast fill material.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 19, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-36-wet
 Investigator(s): D. Mitchell, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.650677 Long: -77.250974 Datum: NAD-1983

Soil Map Unit Name: Hatboro-Codorus complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation X, Soil , or Hydrology significantly disturbed? Yes Are "normal circumstances" present? Yes X No
 Are vegetation X, Soil , or Hydrology naturally problematic? Yes (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland originates at seep. Hydrology is marginal, but obvious plant transitions exist. Wetland flows to 04-STR-01. Field Sheet: 04BWTL1 wet dp1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>10</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Seep is at base of rail fill. Hydrology for wetland comes from seep and precipitation flowing off rail fill. Maintained herbaceous ROW.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-36-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>71</u> x 1 = <u>71</u> FACW species <u>1</u> x 2 = <u>2</u> FAC species <u>46</u> x 3 = <u>138</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>118</u> (A) <u>211</u> (B) Prevalence Index = B/A = <u>1.79</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Murdannia keisak</u>	<u>70</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2 <u>Microstegium vimineum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Arthraxon hispidus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4 <u>Persicaria punctata</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
5 <u>Boehmeria cylindrica</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
6 <u>Persicaria longiseta</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
7				
8				
9				
10				
11				
12				
50% of total cover <u>59</u> 20% of total cover: <u>23.6</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____
Remarks: (If observed, list morphological adaptations below). Important in wetland, but not in plot: <i>Cinna arundinacea</i>.				

SOIL

Sampling Point: **02-WTL-36-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-2	10YR 3 / 1	90	7.5YR 5 / 8	10			clay loam	
2-12+	10YR 4 / 1	70	7.5YR 5 / 8	30			clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-36-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-36-wet Wetland data point



02-WTL-36-wet Upland data point

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 19, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-36-upl
 Investigator(s): D. Mitchell & W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Convex Slope (%): 20%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.650845 Long: -77.250831 Datum: NAD-1983

Soil Map Unit Name: Hatboro-Codorus complex NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Just upslope from wetland data point. Vegetation dominance still FACW and yet <i>Murdannia keisak</i> no longer present. Field Sheet: 04-BWTL01 UP DP.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is not influenced by seep. It is still located in a lower area, but the soils are no longer saturated and are much drier than the wetland data point.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-36-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>95</u> x 3 = <u>285</u> FACU species <u>1</u> x 4 = <u>4</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>106</u> (A) <u>309</u> (B) Prevalence Index = B/A = <u>2.92</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Microstegium vimineum</u>	<u>95</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2 <u>Boehmeria cylindrica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3 <u>Dichantherium clandestinum</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
4 <u>Symphotrichum racemosum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
5 <u>Impatiens capensis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
6 <u>Rosa multiflora</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
7				
8				
9				
10				
11				
12				
50% of total cover <u>53</u> 20% of total cover: <u>21.2</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____

Remarks: (If observed, list morphological adaptations below).

Meadow in pipeline ROW.

SOIL

Sampling Point: **02-WTL-36-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3 / 2	100					clay loam	no mottles
4-12	10YR 3 / 1	90	7.5YR 4 / 4	10			clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils have larger A Horizon & less mottles than wetland data point. Soil color is affected by black RR fill material.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 19, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-37-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.647452 Long: -77.251083 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a depressional wetland south of Marumsco Creek. There is a heavy clay layer that restricts drainage of water through the soil. It is dominated by wetland plants, especially <i>Murdannia keisak</i>. Field Sheet: 04-A-WTL-01-MC, wetlandpt1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Wetland has slight downward slope towards Marumsco Creek. Heavy clay soils appear to keep water near surface during dry periods. Small depression south of Marumsco Creek.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-37-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Murdannia keisak</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Microstegium vimineum</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
3 <u>Polygonum pericaria</u>	<u>5</u>	<u>N</u>		
4 <u>Polygonum spp.</u>	<u>5</u>	<u>N</u>		
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-37-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10YR 5 / 2	90	10YR 5 / 8	10			clay	
9-12	10YR 4 / 3	100					sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Heavy clay with mottling/oxidized root channels 0-9 inches. Sandy clay 9-12 inches.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-37-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-37-wet Herbaceous wetland.



02-WTL-37-wet Wetland soil core

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 19, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-37-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.647462 Long: -77.251134 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is the upland sample point at the CSX toe of slope above wetland 04-WTL-01. Field Sheet: 04WTL01-MC1, upland.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches):	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This sample point is on the CSX toe of slope above the depressional wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-37-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Juglans nigra</u>	<u>60</u>	<u>Y</u>	<u>UPL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2 _____				Total Number of Dominant Species Across all Strata: <u>6</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>16.67%</u> (A/B)
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u>70</u> x 5 = <u>350</u> Column totals <u>130</u> (A) <u>580</u> (B) Prevalence Index = B/A = <u>4.46</u>
5 _____				
6 _____				
7 _____				
8 _____				
<u>60</u> = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Sassafras albidum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Juglans nigra</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>20</u> = Total Cover 50% of total cover <u>10</u> 20% of total cover: <u>4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Verbesina occidentalis</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Lonicera japonica</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Smilax rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Rubus spp.</u>	<u>4</u>	<u>N</u>		
4 _____				
5 _____				
<u>44</u> = Total Cover 50% of total cover <u>22</u> 20% of total cover: <u>8.8</u>				

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).
Much of the herbaceous vegetation is absent due to overstory shade.

SOIL

Sampling Point: **02-WTL-37-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 5 / 3	100					loam	Toe of ballast /slope

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This upland point is well drained with no wetland hydrology or soils.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 19, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-38-wet-1
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.64141 Long: -77.251071 Datum: NAD-1983
 Soil Map Unit Name: Featherstone mucky silt loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is the wetland associated with Murumsc Creek. It is dominated by obligate plants throughout most of the wetland, however in the CSX study corridor north sample point the area was shaded and recently flooded so almost no herbaceous vegetation is present. Field Sheet: 04-A-WTL-02-MC, wetlandpt1, North Point.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): Water table present? Yes <u>X</u> No <u> </u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Surface water present, soils saturated. Very little vegetation present at sample point. Wetland along Veterans Drive, east of railroad. Continues outside of study area. Wetland vegetation present further north/northeast of sample point.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-38-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Liriodendron tulipifera</u>	<u>100</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
<u>100</u> = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>1</u> x 1 = <u>1</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>100</u> x 4 = <u>400</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>101</u> (A) <u>401</u> (B) Prevalence Index = B/A = <u>3.97</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Murdannia keisak</u>	<u>1</u>		<u>OBL</u>	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
<u>1</u> = Total Cover 50% of total cover <u>0.5</u> 20% of total cover: <u>0.2</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Sparse herb stratum. No dominant species present. The tulip poplar is 100% of the cover, but it is rooted in the adjacent upland. Shade and recent flooding/inundation have inhibited plant growth. However, in a normal instance this area would have wetland vegetation, therefore the hydrophytic vegetation is checked yes.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 1	100					silty sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-38-wet-1

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-38-wet-1 Photo description.



02-WTL-38-wet-1 Photo description.



02-WTL-38-wet-1 Wetland soil core

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 19, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-38-upl-1
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.6414222 Long: -77.251035 Datum: NAD-1983
 Soil Map Unit Name: Featherstone mucky silt loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the stream terrace above Marumsco Creek wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <ul style="list-style-type: none"> <u> </u> Surface Water (A1) <u> </u> High Water Table (A2) <u> </u> Saturation (A3) <u> </u> Water Marks (B1) <u> </u> Sediment Deposits (B2) <u> </u> Drift Deposits (B3) <u> </u> Algal Mat or Crust (B4) <u> </u> Iron Deposits (B5) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Thin Muck Surface (C7) <u> </u> Other (Explain in Remarks) 	Secondary Indicators (minimum of two required) <ul style="list-style-type: none"> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> FAC-Neutral Test (D5) <u> </u> Sphagnum moss (D8) (LRR T, U)
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Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **On stream terrace adjacent to 04-WTL-02-N. The terrace is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-38-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liriodendron tulipifera</u>	<u>100</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>5</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>40.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>50</u> x 3 = <u>150</u>	
	<u>100</u> = Total Cover			FACU species <u>150</u> x 4 = <u>600</u>	
	50% of total cover <u>50</u>			UPL species <u>0</u> x 5 = <u>0</u>	
	20% of total cover: <u>20</u>			Column totals <u>200</u> (A) <u>750</u> (B)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>3.75</u>	
1 <u>Sassafras albidum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
2 _____				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
3 _____				<u> </u> 2 - Dominance Test is >50%	
4 _____				<u> </u> 3 - Prevalence Index is ≤3.0	
5 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
6 _____					
7 _____					
8 _____					
	<u>20</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>10</u>			Definitions of Four Vegetation Strata:	
	20% of total cover: <u>4</u>			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
1 <u>Toxicodendron radicans</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2 <u>Lonicera japonica</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>70</u> = Total Cover			Hydrophytic vegetation present? Yes _____ No <u>X</u>	
	50% of total cover <u>35</u>				
	20% of total cover: <u>14</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
	<u>10</u> = Total Cover				
	50% of total cover <u>5</u>				
	20% of total cover: <u>2</u>				

Remarks: (If observed, list morphological adaptations below).

The stream terrace is well drained and has a mixture of upland and facultative species.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 4	100					sandy loam	well drained

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soil is well-drained, sandy loam.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-38-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1				
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1	<u>25</u>	<u>Y</u>	<u>OBL</u>	
2				
3				
4				
5				
6				
7				
8				
25 = Total Cover 50% of total cover <u>12.5</u> 20% of total cover: <u>5</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2	<u>30</u>	<u>Y</u>		
3	<u>20</u>	<u>N</u>	<u>OBL</u>	
4	<u>20</u>	<u>N</u>	<u>FACW</u>	
5				
6				
7				
8				
9				
10				
11				
12				
110 = Total Cover 50% of total cover <u>55</u> 20% of total cover: <u>22</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1	<u>none</u>			
2				
3				
4				
5				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____

Remarks: (If observed, list morphological adaptations below).

20% bare ground

SOIL

Sampling Point: **02-WTL-38-wet-2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 1	100					silty sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)				
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Area appears to remain saturated for long durations during the growing season, and the soils indicate this.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-38-wet-2

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-38-wet-2 Herbaceous vegetation in wetland.



02-WTL-38-wet-2 Wetland soil core

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 19, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-38-upl-2
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.640123 Long: -77.250978 Datum: NAD-1983
 Soil Map Unit Name: Featherstone mucky silt loam NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the upland data point above the jurisdictional limits of the wetland 04-WLT-02-wet-S. Although the soils and vegetation indicate it could be part of the wetland, the lack of hydrology indicates that it is just outside the limits.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland data point 2 is located adjacent to wetland data point 04-WTL-02-wet-S. Location is on a stream terrace. Soil is moderately well drained. Soil is not saturated, no surface water present or high water table present.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-38-upl-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Juglans nigra</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2 <u>Asimina triloba</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
3 _____				Total Number of Dominant Species Across all Strata: <u>3</u> (B)
4 _____				
5 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)
6 _____				
7 _____				Prevalence Index worksheet
8 _____				
<u>35</u> = Total Cover 50% of total cover <u>17.5</u> 20% of total cover: <u>7</u>				Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>35</u> x 2 = <u>70</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>30</u> x 5 = <u>150</u> Column totals <u>100</u> (A) <u>355</u> (B)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>3.55</u>
1 <u>none</u>				Hydrophytic Vegetation Indicators:
2 _____				
3 _____				___ 1 -Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
4 _____				
5 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6 _____				
7 _____				Definitions of Four Vegetation Strata:
8 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Herb Stratum (Plot Size: <u>5' radius</u>)				Hydrophytic vegetation present? Yes <u>X</u> No _____
1 <u>Impatiens capensis</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Festuca spp.</u>	<u>5</u>	<u>N</u>		
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>40</u> = Total Cover 50% of total cover <u>20</u> 20% of total cover: <u>8</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Rosa multiflora</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2 _____				
3 _____				
4 _____				
5 _____				
<u>30</u> = Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>				

Remarks: (If observed, list morphological adaptations below).
Woody vine stratum is very dense. Some walnut trees present, silver maple present just outside upland data plot.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹		
0-3	2.5Y	2.5 / 1	100					sandy silt	
3-12	2.5Y	4 / 1	99	10YR	5 / 6	1		sandy silt	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Hydric soil present, however data point is on a terrace on higher elevation than wetland. Soil is not saturated and moderately well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 19, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-39-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.635819 Long: -77.251232 Datum: NAD-1983

Soil Map Unit Name: Featherstone mucky silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a well defined depressional wetland that drains to the east. There is a culvert that enters the west side under the CSX railroad and flows east. The channel is part of the overall wetland. A high spot near the culvert is included in the wetland boundary. Field Sheet: 04-A-WTL-03, wet 1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Presence of Reduced Iron (C4)	<u> </u> Geomorphic Position (D2)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	<u> </u> Shallow Aquitard (D3)
<u> </u> Thin Muck Surface (C7)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Other (Explain in Remarks)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Water Marks (B1)	
<u> </u> Sediment Deposits (B2)	
<u> </u> Drift Deposits (B3)	
<u> </u> Algal Mat or Crust (B4)	
<u> </u> Iron Deposits (B5)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u> </u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): up to 2 ft Water table present? Yes <u>X</u> No <u> </u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area ponds water for an extended portion of the growing season.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-39-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Robinia pseudoacacia</u>	<u>2</u>		<u>UPL</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
2					
3					
4					
5					
6					
7					
8					
50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>61</u> x 2 = <u>122</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>2</u> x 5 = <u>10</u> Column totals <u>98</u> (A) <u>227</u> (B) Prevalence Index = B/A = <u>2.32</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>none</u>					Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2					
3					
4					
5					
6					
7					
8					
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Echinochloa muricata</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>		Hydrophytic vegetation present? Yes <u>X</u> No _____
2 <u>Dichanthelium acuminatum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>		
3 <u>Murdannia keisak</u>	<u>5</u>	<u>N</u>	<u>OBL</u>		
4 <u>Panicum dichotomiflorum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
5					
6					
7					
8					
9					
10					
11					
12					
50% of total cover <u>48</u> 20% of total cover: <u>19.2</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2					
3					
4					
5					
50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Lots of duck weed on inundated portions of the wetland. Black locust is rooted in adjacent upland.

SOIL

Sampling Point: **02-WTL-39-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹		
0-4	2.5Y	4 / 1	95	10YR	5 / 6	5		silty sand
4-12	2.5Y	5 / 1	98	10YR	5 / 6	2		sandy clay

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils obviously reduced when compared to nearby upland soils.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-39-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	3	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 12

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-39-wet View of wetland



02-WTL-39-wet Wetland (bottom) and upland (top) soil cores



02-WTL-39-wet Upland data point

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 19, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-39-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Convex Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.635888 Long: -77.251254 Datum: NAD-1983
 Soil Map Unit Name: Featherstone mucky silt loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is the upland point near wetland 04-WTL-03 pond. It is on a higher stream terrace and is well drained. Field Sheet: 04-A-WTL-03 pond, upland.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches):	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland data point adjacent to 04-WTL-03-wet data point.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-39-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Robinia pseudoacacia</u>	<u>25</u>	<u>Y</u>	<u>UPL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)
2 <u>Juglans nigra</u>	<u>25</u>	<u>Y</u>	<u>UPL</u>	Total Number of Dominant Species Across all Strata: <u>7</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>14.29%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of: _____	Multiply by: _____
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>60</u> x 2 = <u>120</u>	
8 _____				FAC species <u>0</u> x 3 = <u>0</u>	
	<u>50</u> = Total Cover			FACU species <u>60</u> x 4 = <u>240</u>	
	50% of total cover <u>25</u>	20% of total cover: <u>10</u>		UPL species <u>50</u> x 5 = <u>250</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>170</u> (A) <u>610</u> (B)	
1 <u>Phytolacca americana</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index = B/A = <u>3.59</u>	
2 <u>Verbesina occidentalis</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
3 _____				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation	
4 _____				<input type="checkbox"/> 2 - Dominance Test is >50%	
5 _____				<input type="checkbox"/> 3 - Prevalence Index is ≤3.0	
6 _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____					
8 _____					
	<u>55</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>27.5</u>	20% of total cover: <u>11</u>		Definitions of Four Vegetation Strata:	
Herb Stratum (Plot Size: <u>5' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>Dichanthelium clandestinum</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>60</u> = Total Cover			Hydrophytic vegetation present? Yes _____ No <u>X</u>	
	50% of total cover <u>30</u>	20% of total cover: <u>12</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Lonicera japonica</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>		
2 <u>Rubus spp.</u>	<u>2</u>	<u>Y</u>			
3 _____					
4 _____					
5 _____					
	<u>7</u> = Total Cover				
	50% of total cover <u>3.5</u>	20% of total cover: <u>1.4</u>			

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-39-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 4 / 4	100					sandy silt	well drained

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This stream terrace is well drained, and soils are not reduced.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-40-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): flat Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.625695 Long: -77.251103 Datum: NAD-1983
 Soil Map Unit Name: Marumsco loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is the wetland on the east side of the remnant railroad tracks/trail. Only a small portion is in the study area. This is a large floodplain wetland in the USFWS refuge. Field Sheet: 04-A-WTL-05, wetland.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Some ponded areas throughout this large wetland but not at the sample point.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-40-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Fraxinus pennsylvanica</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across all Strata: <u>6</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Acer rubrum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>115</u> = Total Cover 50% of total cover <u>57.5</u> 20% of total cover: <u>23</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>11</u> x 1 = <u>11</u> FACW species <u>194</u> x 2 = <u>388</u> FAC species <u>34</u> x 3 = <u>102</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>239</u> (A) <u>501</u> (B) Prevalence Index = B/A = <u>2.10</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Fraxinus pennsylvanica</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Viburnum dentatum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>21</u> = Total Cover 50% of total cover <u>10.5</u> 20% of total cover: <u>4.2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Carex tribuloides</u>	<u>70</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2 <u>Cinna arundinacea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3 <u>Symphyotrichum racemosum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4 <u>Persicaria arifolia</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5 <u>Leersia oryzoides</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6 <u>Fraxinus pennsylvanica</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
7 <u>Juncus effusus</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
8 <u>Dichanthelium clandestinum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
9 <u>Symphyotrichum lanceolatum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
10 _____				
11 _____				
12 _____				
<u>95</u> = Total Cover 50% of total cover <u>47.5</u> 20% of total cover: <u>19</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Toxicodendron radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 <u>Vitis cinerea</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Smilax rotundifolia</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
4 _____				
5 _____				
<u>8</u> = Total Cover 50% of total cover <u>4</u> 20% of total cover: <u>1.6</u>				
Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

Remarks: (If observed, list morphological adaptations below).
Alluvial hardwood swamp/bottomland hardwoods. Other important species not in plot include: *Sarurus cernuus*, *Cryptotaenia*, *Mimulus alathis*, and *Carex squarosa*.

SOIL

Sampling Point: **02-WTL-40-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)		%		
0-3	10YR	3 / 1	100					silty sand
3-12	10YR	5 / 1	95	10YR	5 / 6	5		sandy clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are strongly reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-40-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	3	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	3	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	4	Value limited by juxtaposition with CSX and subsequent disturbance.
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 13

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-40-wet

Typical habitat in wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-40-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA:133A Lat: 38.625475 Long: 0 Datum: NAD-1983
 Soil Map Unit Name: Marumsco loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the upland point on the remnant railroad line. It is raised above the floodplain and well drained.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This sample point is on the old raised railroad bed, and it is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-40-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u>	(A)
2 <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>6</u>	(B)
3 <u>Quercus palustris</u>	<u>25</u>	<u>N</u>	<u>FACW</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>83.33%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of: _____ Multiply by: _____	
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>29</u> x 2 = <u>58</u>	
8 _____				FAC species <u>138</u> x 3 = <u>414</u>	
	<u>135</u> = Total Cover			FACU species <u>13</u> x 4 = <u>52</u>	
	50% of total cover <u>67.5</u>	20% of total cover: <u>27</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>180</u> (A) <u>524</u> (B)	
1 <u>Quercus macrocarpa</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index = B/A = <u>2.91</u>	
2 <u>Quercus palustris</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators:	
3 <u>Liquidambar styraciflua</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
4 <u>Viburnum dentatum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
5 <u>Quercus phellos</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____				1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8 _____				Definitions of Four Vegetation Strata:	
	<u>9</u> = Total Cover			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
	50% of total cover <u>4.5</u>	20% of total cover: <u>1.8</u>		Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
1 <u>Microstegium vimineum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
2 <u>Campsis radicans</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
3 <u>Lonicera japonica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
4 <u>Lespedeza cuneata</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
5 <u>Duchesnea indica</u>	<u>1</u>	<u>N</u>			
6 <u>Symphotrichum racemosum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
7 <u>Solidago altissima</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
8 <u>Leersia virginica</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
9 _____					
10 _____					
11 _____					
12 _____					
	<u>30</u> = Total Cover				
	50% of total cover <u>15</u>	20% of total cover: <u>6</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Toxicodendron radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Campsis radicans</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
3 <u>Parthenocissus quinquefolia</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
4 _____					
5 _____					
	<u>7</u> = Total Cover				
	50% of total cover <u>3.5</u>	20% of total cover: <u>1.4</u>			

Remarks: (If observed, list morphological adaptations below).
Mesic hardwood upland forest on old railroad grade.

SOIL

Sampling Point: **02-WTL-40-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 5 / 3	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **This was old fill material for previous railroad line.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-41-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.626426 Long: -77.251258 Datum: NAD-1983
 Soil Map Unit Name: Marumsclo loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a BH slough and herbaceous wetland that lies between CSX railroad toe of slope and an old railroad bed. The data point is in the BH slough and the upland point is in the old railroad bed/trail area. CSX portion of the wetland is maintained. PEM habitat. On USFWS property for the wooded portion. Field Sheet: 04WTL04USFWS wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The old railroad restricts water from draining from the area. A portion of the slough has standing water up to 4 inches in spots.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-41-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Quercus palustris</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Ulmus americana</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4 <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
6				
7				
8				
<u>120</u> = Total Cover 50% of total cover <u>60</u> 20% of total cover: <u>24</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>48</u> x 2 = <u>96</u> FAC species <u>129</u> x 3 = <u>387</u> FACU species <u>12</u> x 4 = <u>48</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>189</u> (A) <u>531</u> (B) Prevalence Index = B/A = <u>2.81</u> Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Ulmus americana</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Viburnum prunifolium</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3 <u>Fraxinus pennsylvanica</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
4				
5				
6				
7				
8				
<u>51</u> = Total Cover 50% of total cover <u>25.5</u> 20% of total cover: <u>10.2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Cinna arundinacea</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Toxicodendron radicans</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Smilax rotundifolia</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
4 <u>Carex albolutescens</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
5 <u>Campsis radicans</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
6 <u>Lonicera japonica</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
7				
8				
9				
10				
11				
12				
<u>16</u> = Total Cover 50% of total cover <u>8</u> 20% of total cover: <u>3.2</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Smilax rotundifolia</u>	<u>1</u>		<u>FAC</u>	
2 <u>Toxicodendron radicans</u>	<u>1</u>		<u>FAC</u>	
3				
4				
5				
<u>2</u> = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: (If observed, list morphological adaptations below).
Depression hardwood swamp. Upland border 10-feet east of plot center. Species important in wetland, however are not in the plot: *Carex lupulina*.

SOIL

Sampling Point: **02-WTL-41-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	2.5Y 3 / 1	100					sandy loam	
3-12	2.5Y 5 / 1	90	10YR 5 / 6	10			silty sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils obviously reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-41-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	3	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	Limited by the small size and juxtaposition of the CSX line.
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 13

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-41-wet Changes in wetland elevation.



02-WTL-41-wet Large oak in wetland.



02-WTL-41-wet Wetland soil core.



02-WTL-41-wet Upland data point showing trail.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-41-upl
 Investigator(s): L. Eggering and W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope none Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.626403 Long: -77.251174 Datum: NAD-1983
 Soil Map Unit Name: Marumsco loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is the upland point is on the raised bed of an old railroad line. It lacks the hydrology and soils to be considered hydric. Field Sheet: 04-A-WTL-04 UPL1 FWS, upland.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This is the upland data point on the old railroad bed/trail. The area is raised and well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-41-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Prunus serotina</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)	
2 <u>Acer rubrum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>8</u> (B)	
3 <u>Liquidambar styraciflua</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)	
4 <u>Cornus florida</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
5 _____					
6 _____					
7 _____					
8 _____					
<u>115</u> = Total Cover				Prevalence Index worksheet	
50% of total cover <u>57.5</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>23</u>				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>5</u> x 2 = <u>10</u>	
				FAC species <u>100</u> x 3 = <u>300</u>	
				FACU species <u>90</u> x 4 = <u>360</u>	
				UPL species <u>6</u> x 5 = <u>30</u>	
				Column totals <u>201</u> (A) <u>700</u> (B)	
				Prevalence Index = B/A = <u>3.48</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Robinia pseudoacacia</u>	<u>6</u>	<u>Y</u>	<u>UPL</u>	<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Sassafras albidum</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	<input type="checkbox"/> 2 - Dominance Test is >50%	
3 <u>Acer rubrum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0	
4 <u>Viburnum prunifolium</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 <u>Celtis occidentalis</u>	<u>2</u>	<u>N</u>	<u>FACU</u>		
6 _____					
7 _____					
8 _____					
<u>21</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>10.5</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>4.2</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
1 <u>Lonicera japonica</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>		
2 <u>Elymus virginicus</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>		
3 <u>Toxicodendron radicans</u>	<u>10</u>	<u>N</u>	<u>FAC</u>		
4 <u>Muhlenbergia schreberi</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
5 <u>Dichanthelium clandestinum</u>	<u>3</u>	<u>N</u>	<u>FACW</u>		
6 <u>Quercus palustris</u>	<u>2</u>	<u>N</u>	<u>FACW</u>		
7 <u>Smilax rotundifolia</u>	<u>2</u>	<u>N</u>	<u>FAC</u>		
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>62</u> = Total Cover					
50% of total cover <u>31</u>					
20% of total cover: <u>12.4</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Toxicodendron radicans</u>	<u>2</u>		<u>FAC</u>		
2 <u>Smilax rotundifolia</u>	<u>1</u>		<u>FAC</u>		
3 _____					
4 _____					
5 _____					
<u>3</u> = Total Cover					
50% of total cover <u>1.5</u>					
20% of total cover: <u>0.6</u>					

Remarks: (If observed, list morphological adaptations below).
Hardwood upland forest on old railroad grade. Wetland border is 15 feet west of plot center. Other important species outside plot include *Corylus americana*.

SOIL

Sampling Point: **02-WTL-41-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3 / 1	100					sandy loam	
10+								rocky fill

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This is dark black sand that was fill material for the old railroad. Although the matrix is dark, there is no evidence of reducing conditions.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-42-wet-1
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.622384 Long: -77.25144 Datum: NAD-1983
 Soil Map Unit Name: Marumsc loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This sample point is at an elevated portion of the Farm Creek wetland. The hydrology is much weaker, but the soils are clearly hydric. Field Sheet: 04-A-WLT-05 wet2, Wetland Plot 2, South of Farm Creek.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology is somewhat weak in this part of the floodplain, however it is clear that the soils remain saturated for an extended portion of the growing season. Area may receive infrequent overflow flooding from Farm Creek, which is tidally influenced.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-42-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u>	(A)
2 <u>Liriodendron tulipifera</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>8</u>	(B)
3 <u>Acer rubrum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>62.50%</u>	(A/B)
4 <u>Pinus serotina</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
5 _____					
6 _____					
7 _____					
8 _____					
	<u>115</u> = Total Cover			Prevalence Index worksheet	
	50% of total cover <u>57.5</u>	20% of total cover: <u>23</u>		Total % Cover of: _____	Multiply by: _____
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				OBL species <u>0</u> x 1 = <u>0</u>	
1 <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	FACW species <u>9</u> x 2 = <u>18</u>	
2 <u>Lindera benzoin</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	FAC species <u>126</u> x 3 = <u>378</u>	
3 <u>Liquidambar styraciflua</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	FACU species <u>77</u> x 4 = <u>308</u>	
4 _____				UPL species <u>0</u> x 5 = <u>0</u>	
5 _____				Column totals <u>212</u> (A) <u>704</u> (B)	
6 _____					
7 _____					
8 _____					
	<u>14</u> = Total Cover			Prevalence Index = B/A = <u>3.32</u>	
	50% of total cover <u>7</u>	20% of total cover: <u>2.8</u>		Hydrophytic Vegetation Indicators:	
Herb Stratum (Plot Size: <u>5' radius</u>)				<u>1</u> -Rapid Test for Hydrophytic Vegetation	
1 <u>Microstegium vimineum</u>	<u>33</u>	<u>Y</u>	<u>FAC</u>	<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
2 <u>Lonicera japonica</u>	<u>33</u>	<u>Y</u>	<u>FACU</u>	<u>3</u> - Prevalence Index is ≤3.0	
3 <u>Campsis radicans</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	<u>_____</u> Problematic Hydrophytic Vegetation ¹ (Explain)	
4 <u>Lindera benzoin</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
5 <u>Rubus spp.</u>	<u>1</u>	<u>N</u>			
6 <u>Cinna arundinacea</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
7 <u>Persicaria virginiana</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>75</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>37.5</u>	20% of total cover: <u>15</u>		Definitions of Four Vegetation Strata:	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>Parthenocissus quinquefolia</u>	<u>3</u>	<u>Y</u>	<u>FACU</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 <u>Toxicodendron radicans</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 <u>Smilax rotundifolia</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
4 <u>Campsis radicans</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
5 <u>Lonicera japonica</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
	<u>9</u> = Total Cover			Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
	50% of total cover <u>4.5</u>	20% of total cover: <u>1.8</u>			

Remarks: (If observed, list morphological adaptations below).
Plants are more facultative than nearby wetter portions of the floodplain.

SOIL

Sampling Point: **02-WTL-42-wet-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)		%		
0-3	10YR	3 / 1	100					loam
3-12	10YR	4 / 2	95	10YR	5 / 8	5		sandy clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils were not saturated, but it appears area is being reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-42-wet-1

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 9

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-42-wet-1 Typical habitat for drier portions of the wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-42-upl-1
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.622455 Long: -77.25169 Datum: NAD-1983
 Soil Map Unit Name: Marumsco loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland point is near the CSX ballast and is 2 feet higher in elevation than the existing floodplain.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area near ballast appears to be well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-42-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u>	(A)
2 <u>Liriodendron tulipifera</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>6</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>25</u> x 2 = <u>50</u>	
8 _____				FAC species <u>60</u> x 3 = <u>180</u>	
	<u>42</u> = Total Cover			FACU species <u>122</u> x 4 = <u>488</u>	
	50% of total cover <u>21</u>			UPL species <u>0</u> x 5 = <u>0</u>	
	20% of total cover: <u>8.4</u>			Column totals <u>207</u> (A) <u>718</u> (B)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>3.47</u>	
1 <u>Prunus serotina</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
2 <u>Sassafras albidum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
3 <u>Quercus palustris</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	<u> </u> 2 - Dominance Test is >50%	
4 _____				<u> </u> 3 - Prevalence Index is ≤3.0	
5 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
6 _____					
7 _____					
8 _____					
	<u>35</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>17.5</u>			Definitions of Four Vegetation Strata:	
	20% of total cover: <u>7</u>			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
1 <u>Microstegium vimineum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2 <u>Dichanthelium clandestinum</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
3 <u>Sorghastrum nutans</u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
4 <u>Aster vimineus</u>	<u>5</u>	<u>N</u>			
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>55</u> = Total Cover				
	50% of total cover <u>27.5</u>				
	20% of total cover: <u>11</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Hydrophytic vegetation present? Yes <u> </u> No <u>X</u>	
1 <u>Lonicera japonica</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>		
2 _____					
3 _____					
4 _____					
5 _____					
	<u>80</u> = Total Cover				
	50% of total cover <u>40</u>				
	20% of total cover: <u>16</u>				

Remarks: (If observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 3	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-42-wet-2
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.620551 Long: -77.25179 Datum: NAD-1983
 Soil Map Unit Name: Featherstone mucky silt loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a lower portion of the Farm Creek floodplain. Field Sheet: 04-A-WTL-06 wet 1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): 10 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area may receive very infrequent overflow from flooding.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-42-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)	
2 <u>Liquidambar styraciflua</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>7</u> (B)	
3 <u>Nyssa sylvatica</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>85.71%</u> (A/B)	
4 <u>Quercus phellos</u>	<u>10</u>	<u>N</u>	<u>FACW</u>		
5 <u>Quercus palustris</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
6 <u>Liriodendron tulipifera</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
7 _____					
8 _____					
<u>125</u> = Total Cover 50% of total cover <u>62.5</u> 20% of total cover: <u>25</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Leucothoe racemosa</u>	<u>20</u>	<u>Y</u>		OBL species <u>0</u> x 1 = <u>0</u>	
2 <u>Viburnum dentatum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	FACW species <u>61</u> x 2 = <u>122</u>	
3 <u>Ilex verticillata</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	FAC species <u>142</u> x 3 = <u>426</u>	
4 <u>Fraxinus pennsylvanica</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	FACU species <u>6</u> x 4 = <u>24</u>	
5 <u>Quercus michauxii</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	UPL species <u>0</u> x 5 = <u>0</u>	
6 <u>Quercus alba</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	Column totals <u>209</u> (A) <u>572</u> (B)	
7 <u>Liquidambar styraciflua</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	Prevalence Index = B/A = <u>2.74</u>	
8 <u>Ulmus americana</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators:	
<u>37</u> = Total Cover 50% of total cover <u>18.5</u> 20% of total cover: <u>7.4</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Leersia virginica</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	Definitions of Four Vegetation Strata:	
2 <u>Quercus phellos</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 <u>Fraxinus pennsylvanica</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 <u>Rubus spp.</u>	<u>1</u>	<u>N</u>		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>43</u> = Total Cover 50% of total cover <u>21.5</u> 20% of total cover: <u>8.6</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
<u>25</u> = Total Cover 50% of total cover <u>12.5</u> 20% of total cover: <u>5</u>					

Remarks: (If observed, list morphological adaptations below).
Wet hardwood flatwoods.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3 / 1	100					sandy clay loam	
3-12	10YR 5 / 2	95	10YR 5 / 8	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are are more clay than some of the core samples in this floodplain.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-42-wet-2

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 9

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-42-wet-2 Photo description.



02-WTL-42-wet-2 Wetland soil core

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-42-upl-2
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): small ridge Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.620973 Long: -77.251869 Datum: NAD-1983
 Soil Map Unit Name: Lunt loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This sample point is in an upland in a small ridge 2 feet above the floodplain. Although the point has wetland vegetation, there is no requisite hydrology.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This elevated area does not have wetland hydrology.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-42-upl-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Liquidambar styraciflua</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>9</u> (A) Total Number of Dominant Species Across all Strata: <u>12</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)	
2 <u>Acer rubrum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>		
3 <u>Quercus alba</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>		
4 <u>Liriodendron tulipifera</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>		
5 <u>Nyssa sylvatica</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
6					
7					
8					
<u>115</u> = Total Cover 50% of total cover <u>57.5</u> 20% of total cover: <u>23</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>9</u> x 2 = <u>18</u> FAC species <u>122</u> x 3 = <u>366</u> FACU species <u>66</u> x 4 = <u>264</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>197</u> (A) <u>648</u> (B) Prevalence Index = B/A = <u>3.29</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Ilex verticillata</u>	<u>7</u>	<u>Y</u>	<u>FACW</u>		Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
3 <u>Carpinus caroliniana</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>		
4					
5					
6					
7					
8					
<u>15</u> = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Microstegium vimineum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>		Hydrophytic vegetation present? Yes <u>X</u> No _____
2 <u>Lonicera japonica</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>		
3 <u>Dichanthelium clandestinum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
4 <u>Campsis radicans</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
5 <u>Leersia virginica</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
6 <u>Solidago rugosa</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
7					
8					
9					
10					
11					
12					
<u>59</u> = Total Cover 50% of total cover <u>29.5</u> 20% of total cover: <u>11.8</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Smilax rotundifolia</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Campsis radicans</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>		
3 <u>Toxicodendron radicans</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>		
4 <u>Parthenocissus quinquefolia</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
5					
<u>8</u> = Total Cover 50% of total cover <u>4</u> 20% of total cover: <u>1.6</u>					

Remarks: (If observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 4 / 3	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils likely effected by CSX fill.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-42-wet-3
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.617615 Long: -77.252239 Datum: NAD-1983
 Soil Map Unit Name: Featherstone mucky silt loam NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This sample point is below a large culvert that drains into 04-WTL-06, the sample point is in a gas line ROW.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area includes everything downstream from a large culvert, but excludes raised railroad bed.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-42-wet-3**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2 _____				Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
0 = Total Cover				Prevalence Index worksheet	
50% of total cover <u>0</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>0</u>				OBL species <u>71</u> x 1 = <u>71</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				FACW species <u>5</u> x 2 = <u>10</u>	
1 <u>none</u>				FAC species <u>25</u> x 3 = <u>75</u>	
2 _____				FACU species <u>0</u> x 4 = <u>0</u>	
3 _____				UPL species <u>0</u> x 5 = <u>0</u>	
4 _____				Column totals <u>101</u> (A) <u>156</u> (B)	
5 _____				Prevalence Index = B/A = <u>1.54</u>	
6 _____				Hydrophytic Vegetation Indicators:	
7 _____				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
8 _____				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
0 = Total Cover				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
50% of total cover <u>0</u>				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
20% of total cover: <u>0</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Murdannia keisak</u>	<u>70</u>	<u>Y</u>	<u>OBL</u>	Definitions of Four Vegetation Strata:	
2 <u>Microstegium vimineum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 <u>Cinna arundinacea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 <u>Leersia oryzoides</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
101 = Total Cover					
50% of total cover <u>50.5</u>					
20% of total cover: <u>20.2</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____	
2 _____					
3 _____					
4 _____					
5 _____					
0 = Total Cover					
50% of total cover <u>0</u>					
20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-42-wet-3**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 1	95	10YR 5 / 6	5			sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Lots of clay in soil core and obviously reduced. More sand in soils near culvert.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-42-wet-3

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	3	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-42-wet-3 Inundation in wetland.



02-WTL-42-wet-3 CSX bridge in background.



02-WTL-42-wet-3 Upland data point/raised road bed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-42-upl-3
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.617622 Long: -77.25212 Datum: NAD-1983

Soil Map Unit Name: Featherstone mucky silt loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is an upland point on the raised railroad bed. Field Sheet: 04-A-WTL-06 UPL2, Upland Plot 2.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Insufficient hydrology to be considered a wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-42-upl-3**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>75</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u>	(A)
2 <u>Acer rubrum</u>	<u>7</u>	<u>N</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>9</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>55.56%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>1</u> x 2 = <u>2</u>	
8 _____				FAC species <u>109</u> x 3 = <u>327</u>	
	<u>82</u> = Total Cover			FACU species <u>10</u> x 4 = <u>40</u>	
	50% of total cover <u>41</u>			UPL species <u>0</u> x 5 = <u>0</u>	
	20% of total cover: <u>16.4</u>			Column totals <u>120</u> (A) <u>369</u> (B)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>3.08</u>	
1 <u>Quercus velutina</u>	<u>10</u>	<u>Y</u>		Hydrophytic Vegetation Indicators:	
2 <u>Quercus marilandia</u>	<u>10</u>	<u>Y</u>		<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
3 <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
4 <u>Carpinus caroliniana</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	<u> </u> 3 - Prevalence Index is ≤3.0	
5 <u>Sassafras albidum</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
6 <u>Liquidambar styraciflua</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
7 _____					
8 _____					
	<u>34</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>17</u>			Definitions of Four Vegetation Strata:	
	20% of total cover: <u>6.8</u>			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
1 <u>Amphicarpaea bracteata</u>	<u>4</u>	<u>Y</u>	<u>FAC</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2 <u>Desmodium glabellum</u>	<u>4</u>	<u>Y</u>		Woody vines - All woody vines greater than 3.28 ft in height.	
3 <u>Microstegium vimineum</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>		
4 <u>Carex spp.</u>	<u>2</u>	<u>N</u>			
5 <u>Lespedeza cuneata</u>	<u>2</u>	<u>N</u>	<u>FACU</u>		
6 <u>Leersia virginica</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
7 <u>Lonicera japonica</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
8 <u>Dichanthelium dichotomum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
9 <u>Carex spp.</u>	<u>1</u>	<u>N</u>			
10 <u>Agrostis perennans</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
11 <u>Desmodium paniculatum</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
12 <u>Lespedeza procumbens</u>	<u>1</u>	<u>N</u>			
	<u>22</u> = Total Cover				
	50% of total cover <u>11</u>				
	20% of total cover: <u>4.4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Toxicodendron radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Campsis radicans</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>		
3 <u>Parthenocissus quinquefolia</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>		
4 <u>Vitis cinerea</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
5 _____					
	<u>10</u> = Total Cover				
	50% of total cover <u>5</u>				
	20% of total cover: <u>2</u>				

Remarks: (If observed, list morphological adaptations below).
Mesic hardwood forest on old railroad grade.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 2 / 3	100					loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils are fill material for an old railroad bed.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-43-wet
 Investigator(s): L. Eggering & W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 0-3%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.614771 Long: -77.252573 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland was created by the presence of the old railroad bed which does not allow the area to drain. Field Sheet: 04-A-WTL-07-wet 1, Wetland.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Railroad bed causes ponding and saturation. An upstream ephemeral channel contributes runoff to the wetland. Lower portions of wetland are inundated.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-43-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)	
2 <u>Liquidambar styraciflua</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
3 <u>Nyssa sylvatica</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 <u>Quercus alba</u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
5 <u>Liriodendron tulipifera</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
6 _____					
7 _____					
8 _____					
<u>125</u> = Total Cover 50% of total cover <u>62.5</u> 20% of total cover: <u>25</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Lindera benzoin</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	OBL species <u>0</u> x 1 = <u>0</u>	
2 _____				FACW species <u>29</u> x 2 = <u>58</u>	
3 _____				FAC species <u>173</u> x 3 = <u>519</u>	
4 _____				FACU species <u>16</u> x 4 = <u>64</u>	
5 _____				UPL species <u>0</u> x 5 = <u>0</u>	
6 _____				Column totals <u>218</u> (A) <u>641</u> (B)	
7 _____				Prevalence Index = B/A = <u>2.94</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>20</u> = Total Cover 50% of total cover <u>10</u> 20% of total cover: <u>4</u>				<u>1</u> -Rapid Test for Hydrophytic Vegetation	
Herb Stratum (Plot Size: <u>5' radius</u>)				<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
1 <u>Microstegium vimineum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	<input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0	
2 <u>Lindera benzoin</u>	<u>7</u>	<u>N</u>	<u>FACW</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
3 <u>Toxicodendron radicans</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
4 <u>Dichanthelium clandestinum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
5 <u>Campsis radicans</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
6 <u>Leersia virginica</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
7 <u>Lycopus spp.</u>	<u>1</u>	<u>N</u>			
8 <u>Lonicera japonica</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
9 _____					
10 _____					
11 _____					
12 _____					
<u>67</u> = Total Cover 50% of total cover <u>33.5</u> 20% of total cover: <u>13.4</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Definitions of Four Vegetation Strata:	
1 <u>Toxicodendron radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
2 <u>Campsis radicans</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
3 <u>Smilax glauca</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
4 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
5 _____					
<u>7</u> = Total Cover 50% of total cover <u>3.5</u> 20% of total cover: <u>1.4</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	

Remarks: (If observed, list morphological adaptations below).

Wet hardwood flat woods.

SOIL

Sampling Point: **02-WTL-43-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 4 / 3	100					loam	
3-12	10YR 5 / 1	90	10YR 5 / 6	10			clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils on surface are not as depleted as the soils below 3 inches.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-43-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-43-wet Wetland data point



02-WTL-43-wet Wetland soil core



02-WTL-43-wet Upland data point

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 20, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-43-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.614134 Long: -77.252883 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This upland point above wetland 04-WTL-07-wet is in the gas line ROW. It slopes to the north into the wetland. Field Sheet: 04AWTL07 upland.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches):	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This sample point is up from the wetland boundary.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-43-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>2</u> x 2 = <u>4</u> FAC species <u>68</u> x 3 = <u>204</u> FACU species <u>16</u> x 4 = <u>64</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>86</u> (A) <u>272</u> (B) Prevalence Index = B/A = <u>3.16</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Muhlenbergia schreberi</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Lespedeza cuneata</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
3 <u>Verbesina alternifolia</u>	<u>12</u>	<u>N</u>	<u>FAC</u>	
4 <u>Smallanthus uvedalius</u>	<u>10</u>	<u>N</u>		
5 <u>Elymus virginicus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
6 <u>Carex debilis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
7 <u>Geum virginianum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
8 <u>Lonicera japonica</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
9 <u>Microstegium vimineum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
10				
11				
12				
50% of total cover <u>48</u> 20% of total cover: <u>19.2</u>				Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <u> </u> X 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover <u>48</u> 20% of total cover: <u>19.2</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic vegetation present? Yes <u> X </u> No <u> </u>

Remarks: (If observed, list morphological adaptations below).

Meadow in pipeline ROW.

SOIL

Sampling Point: **02-WTL-43-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4 / 3	100					clay loam	
6-12	10YR 5 / 4	90	10YR 5 / 6	10			sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Soils do not appear to be reduced.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-44-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.611053 Long: -77.253615 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: PFO/PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a railroad ditch wetland near the Rippon VRE station that flows across the gas ROW to the east and into an undulating forest. Portions of the forest are wetland and some are upland. Sample point is in CSX ROW railroad ditch PEM. Field Sheet: 04-A-WLT-08 WET.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u>X</u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u>X</u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u>X</u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This railroad ditch ponds water for an extended portion of the growing season. In wet periods it flows out east and across the gas ROW into an undulating forest that is mostly wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-44-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2 _____				Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of: _____ Multiply by: _____	
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>13</u> x 2 = <u>26</u>	
8 _____				FAC species <u>19</u> x 3 = <u>57</u>	
	<u>0</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
50% of total cover <u>0</u>		20% of total cover: <u>0</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>32</u> (A) <u>83</u> (B)	
1 <u>none</u>				Prevalence Index = B/A = <u>2.59</u>	
2 _____				Hydrophytic Vegetation Indicators:	
3 _____				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
4 _____				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
5 _____				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____					
8 _____					
	<u>0</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>0</u>		20% of total cover: <u>0</u>		Definitions of Four Vegetation Strata:	
Herb Stratum (Plot Size: <u>5' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>Andropogon virginicus</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 <u>Leersia virginica</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 <u>Euthamia graminifolia</u>	<u>4</u>	<u>N</u>	<u>FAC</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
4 <u>Symphotrichum racemosum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>		
5 <u>Dichanthelium clandestinum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
6 <u>Scirpus spp.</u>	<u>1</u>	<u>N</u>			
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>33</u> = Total Cover				
50% of total cover <u>16.5</u>		20% of total cover: <u>6.6</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
50% of total cover <u>0</u>		20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).

Wet meadow in railroad side ditch/depression.

SOIL

Sampling Point: **02-WTL-44-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3 / 1	100					loam	
3-8	10YR 5 / 1	95	10YR 5 / 8	5			sandy clay loam	
8-12	10YR 5 / 4	95	10YR 5 / 1	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **The clay in the soil core likely creates an impenetrable layer which aids in the wetland hydrology.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-44-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-44-wet Rippon Station platform in the background.



02-WTL-44-wet PEM portion of the wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-44-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 0-3%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.610881 Long: -77.253489 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the upland point in gas ROW. It does have some wetland plants, but the hydrology is insufficient, and the soils are not hydric. Field Sheet: 04-A-WTL-08 UPL	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This upland point is well drained and raised area near the wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-44-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Quercus palustris</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>60</u> = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Robinia pseudoacacia</u>	<u>4</u>	<u>Y</u>	<u>UPL</u>	OBL species <u>0</u> x 1 = <u>0</u>	
2 <u>Rubus pensilvanicus</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	FACW species <u>41</u> x 2 = <u>82</u>	
3 <u>Fraxinus pennsylvanica</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	FAC species <u>85</u> x 3 = <u>255</u>	
4 <u>Viburnum prunifolium</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	FACU species <u>31</u> x 4 = <u>124</u>	
5 _____				UPL species <u>9</u> x 5 = <u>45</u>	
6 _____				Column totals <u>166</u> (A) <u>506</u> (B)	
7 _____				Prevalence Index = B/A = <u>3.05</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>7</u> = Total Cover 50% of total cover <u>3.5</u> 20% of total cover: <u>1.4</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Microstegium vimineum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Definitions of Four Vegetation Strata:	
2 <u>Lonicera japonica</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 <u>Robinia pseudoacacia</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 <u>Lespedeza cuneata</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 <u>Campsis radicans</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>95</u> = Total Cover 50% of total cover <u>47.5</u> 20% of total cover: <u>19</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1 <u>Toxicodendron radicans</u>	<u>1</u>		<u>FAC</u>		
2 <u>Smilax rotundifolia</u>	<u>1</u>		<u>FAC</u>		
3 <u>Parthenocissus quinquefolia</u>	<u>1</u>		<u>FACU</u>		
4 <u>Lonicera japonica</u>	<u>1</u>		<u>FACU</u>		
5 _____					
<u>4</u> = Total Cover 50% of total cover <u>2</u> 20% of total cover: <u>0.8</u>					

Remarks: (If observed, list morphological adaptations below).
Plot center is on edge of pipeline ROW meadow and strip of mesic hardwood forest.

SOIL

Sampling Point: **02-WTL-44-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 3	99	7.5YR 5 / 8	1			loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This loamy soil is well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-45-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-3%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.609258 Long: -77.254309 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a railroad ditch wetland that is dominated by obligate plants. It proceeds to the south and into a wooded swale that has no channels. It may be considered isolated. Field Sheet: 04-A-WTL-09PC, NC, Wetland.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This railroad ditch wetland likely receives runoff and seep water from the adjacent hillside to the west.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-45-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>1</u>		FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2 <u>Liriodendron tulipifera</u>	<u>1</u>		FACU	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u> (A/B)	
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>6</u> x 3 = <u>18</u> FACU species <u>21</u> x 4 = <u>84</u> UPL species <u>5</u> x 5 = <u>25</u> Column totals <u>72</u> (A) <u>207</u> (B) Prevalence Index = B/A = <u>2.88</u>	
5 _____					
6 _____					
7 _____					
8 _____					
<u>2</u> = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Acer negundo</u>	<u>2</u>	Y	FAC		
2 <u>Rubus pensilvanicus</u>	<u>2</u>	Y	FAC		
3 <u>Rubus occidentalis</u>	<u>2</u>	Y			
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>6</u> = Total Cover 50% of total cover <u>3</u> 20% of total cover: <u>1.2</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Echinochloa muricata</u>	<u>40</u>	Y	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
2 <u>Digitaria ciliaris</u>	<u>20</u>	Y	FACU		
3 <u>Setaria faberi</u>	<u>5</u>	N	UPL		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>65</u> = Total Cover 50% of total cover <u>32.5</u> 20% of total cover: <u>13</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Campsis radicans</u>	<u>1</u>		FAC	Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
2 <u>Lonicera japonica</u>			FACU		
3 _____					
4 _____					
5 _____					
<u>1</u> = Total Cover 50% of total cover <u>0.5</u> 20% of total cover: <u>0.2</u>					
				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (If observed, list morphological adaptations below).
Railroad ditch wet meadow with much unvegetated bottom. Trees, shrubs are rooted on adjacent bank. Other important species not in the plot include: *Carex lurida* and *Scirpus hattoriamus*.

SOIL

Sampling Point: **02-WTL-45-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3 / 1	100					loam	lots of organic matter
3-10	10YR 5 / 1	90	10YR 5 / 6	10			sandy clay loam	
10+	10YR 5 / 4	90	10YR 5 / 1	10			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **The railroad ditch wetland has reducing soil conditions. Lots of railroad debris and litter in ditch, not very high quality.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-45-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-45-wet Low quality RR ditch wetland.



02-WTL-45-wet Typical vegetation in wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-45-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): slight slope Slope (%): 0-3%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.609272 Long: -77.254347 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is the upland point on a terrace just west of the railroad ditch wetland. It is well drained and lacks wetland hydrology. Field Sheet: 04-A-WTL-09 PC, Upland.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches):	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area is well drained and 3 feet higher than the railroad ditch wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-45-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Robinia pseudoacacia</u>	<u>40</u>	<u>Y</u>	<u>UPL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2 <u>Liriodendron tulipifera</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>6</u> (B)	
3 <u>Acer rubrum</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)	
4 <u>Prunus serotina</u>	<u>6</u>	<u>N</u>	<u>FACU</u>		
5 _____					
6 _____					
7 _____					
8 _____					
<u>86</u> = Total Cover 50% of total cover <u>43</u> 20% of total cover: <u>17.2</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Diospyros virginiana</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>0</u> x 1 = <u>0</u>	
2 <u>Rosa multiflora</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	FACW species <u>0</u> x 2 = <u>0</u>	
3 _____				FAC species <u>90</u> x 3 = <u>270</u>	
4 _____				FACU species <u>47</u> x 4 = <u>188</u>	
5 _____				UPL species <u>40</u> x 5 = <u>200</u>	
6 _____				Column totals <u>177</u> (A) <u>658</u> (B)	
7 _____				Prevalence Index = B/A = <u>3.72</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>21</u> = Total Cover 50% of total cover <u>10.5</u> 20% of total cover: <u>4.2</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Microstegium vimineum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Definitions of Four Vegetation Strata:	
2 <u>Lonicera japonica</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 <u>Campsis radicans</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 <u>Unknown seedling</u>	<u>5</u>	<u>N</u>		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>60</u> = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Campsis radicans</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Vitis spp.</u>	<u>1</u>	<u>N</u>			
3 _____					
4 _____					
5 _____					
<u>16</u> = Total Cover 50% of total cover <u>8</u> 20% of total cover: <u>3.2</u>					

Remarks: (If observed, list morphological adaptations below).

Mesic hardwood early successional forest.

SOIL

Sampling Point: **02-WTL-45-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 4	98	10YR 5 / 6	2			loam	few faint mottles

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **These soils are well drained and not hydric. Neabsco Creek**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-46-wet-1
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Neabsco Creek floodplain Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.60641 Long: -77.255452 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: PFO/PSS

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a bay off Neabsco Creek. It is a high quality PFO/PSS wetland in the northern most portion and extends into the swale to the north. There is no well defined channel above the wetland, just a swale. Field Sheet: 04-A-WTL-10PC, NC, Wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u>X</u> No <u> </u> Depth (inches): surface Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area appears to be tidally affected. Moving south, habitats change from PSS to a cattail swamp. There is beaver activity near the sample point which at observation time has no water (low tide). Beavers probably move into this area at high tide. Photo: View from base of railroad, facing south.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-46-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Fraxinus pennsylvanica</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Quercus palustris</u>	<u>7</u>	<u>N</u>	<u>FACW</u>	
4 <u>Prunus serotina</u>	<u>6</u>	<u>N</u>	<u>FACU</u>	
5 <u>Ilex opaca</u>	<u>4</u>	<u>N</u>	<u>FAC</u>	
6				
7				
8				
<u>67</u> = Total Cover 50% of total cover <u>33.5</u> 20% of total cover: <u>13.4</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>35</u> x 1 = <u>35</u> FACW species <u>75</u> x 2 = <u>150</u> FAC species <u>45</u> x 3 = <u>135</u> FACU species <u>6</u> x 4 = <u>24</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>161</u> (A) <u>344</u> (B) Prevalence Index = B/A = <u>2.14</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Cornus amomum</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Acer rubrum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Liquidambar styraciflua</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	
4 <u>Asimina triloba</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
5				
6				
7				
8				
<u>54</u> = Total Cover 50% of total cover <u>27</u> 20% of total cover: <u>10.8</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Saururus cernuus</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Cinna arundinacea</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
3 <u>Symphotrichum racemosum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
4				
5				
6				
7				
8				
9				
10				
11				
12				
<u>38</u> = Total Cover 50% of total cover <u>19</u> 20% of total cover: <u>7.6</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Toxicodendron radicans</u>	<u>2</u>		<u>FAC</u>	
2 <u>Vitis spp.</u>	<u>2</u>			
3				
4				
5				
<u>4</u> = Total Cover 50% of total cover <u>2</u> 20% of total cover: <u>0.8</u>				
Remarks: (If observed, list morphological adaptations below). Bottomland hardwood swamp forest fringe to open-canopy wetland. Liriodendron and Liquidambar trees with cover in 30 foot radius plot not counted above because rooted in upland.				

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	2.5Y 2.5 / 1	95	10YR 5 / 1	5			silt loam	lots of organic matter

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **This is a very reduced hydric soil.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-46-wet-1

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	4	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	4	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	2	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	4	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	3	Limited by tidal shifts.
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 20

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-46-wet-1 PSS portion of the wetland.



02-WTL-46-wet-1 Beaver damage in the wetland.



02-WTL-46-wet-1 Area near upland point.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-46-wet-2
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Neabsco Creek floodplain Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.606243 Long: -77.255653 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This sample point is in the area that transitions to cattail from PSS. There is no upland data point associated with this area. Field Sheet: 04-A-WTL-10 wet 2, PC, Wetland.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Water Marks (B1)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Geomorphic Position (D2)
<u> </u> Sediment Deposits (B2)	<u> </u> Shallow Aquitard (D3)
<u> </u> Presence of Reduced Iron (C4)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Drift Deposits (B3)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	
<u> </u> Iron Deposits (B5)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u> </u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): 0-1 Water table present? Yes <u>X</u> No <u> </u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-46-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Cornus amomum</u>	<u>1</u>		FACW	
2 <u>Viburnum dentatum</u>	<u>1</u>		FAC	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Typha angustifolia</u>	<u>40</u>	<u>Y</u>	OBL	
2 <u>Impatiens capensis</u>	<u>20</u>	<u>Y</u>	FACW	
3 <u>Onoclea sensibilis</u>	<u>20</u>	<u>Y</u>	FACW	
4 <u>Thelypteris palustris</u>	<u>10</u>	<u>N</u>	OBL	
5 <u>Persicaria arifolia</u>	<u>10</u>	<u>N</u>	OBL	
6 <u>Saururus cernuus</u>	<u>5</u>	<u>N</u>	OBL	
7 <u>Mikania scandens</u>	<u>1</u>	<u>N</u>	FACW	
8 <u>Bolboschoenus fluviatilis</u>	<u>1</u>	<u>N</u>	OBL	
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>53.5</u> 20% of total cover: <u>21.4</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Freshwater marsh, that is tidally influenced. Cover of trees (*Nyssa sylvatica*, *Prunus serotina*) and vines (*Toxicodendron*) from adjacent upland are not counted above. Note: River bulrush (*Bolboschoenus fluviatilis*) is a state-listed (S2) species that was previously not known to occur in the Neabsco Creek embayment.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹		
0-12	2.5Y	2.5 / 1	100					silt	lots of organic matter

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input checked="" type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: This is a very mucky, silty soil that is obviously reduced.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-46-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liriodendron tulipifera</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>N</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>6</u> (B)	
3 <u>Robinia pseudoacacia</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)	
4 <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
5 <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
6 <u>Nyssa sylvatica</u>	<u>4</u>	<u>N</u>	<u>FAC</u>		
7 <u>Prunus serotina</u>	<u>2</u>	<u>N</u>	<u>FACU</u>		
8 _____					
	<u>116</u> = Total Cover				
	50% of total cover <u>58</u>	20% of total cover: <u>23.2</u>			
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet	
1 <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Total % Cover of: _____ Multiply by: _____	
2 <u>Carya tomentosa</u>	<u>5</u>	<u>Y</u>		OBL species <u>0</u> x 1 = <u>0</u>	
3 <u>Celtis occidentalis</u>	<u>4</u>	<u>N</u>	<u>FACU</u>	FACW species <u>5</u> x 2 = <u>10</u>	
4 <u>Prunus serotina</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	FAC species <u>67</u> x 3 = <u>201</u>	
5 _____				FACU species <u>107</u> x 4 = <u>428</u>	
6 _____				UPL species <u>10</u> x 5 = <u>50</u>	
7 _____				Column totals <u>189</u> (A) <u>689</u> (B)	
8 _____				Prevalence Index = B/A = <u>3.65</u>	
	<u>21</u> = Total Cover			Hydrophytic Vegetation Indicators:	
	50% of total cover <u>10.5</u>	20% of total cover: <u>4.2</u>		<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Four Vegetation Strata:	
1 <u>Microstegium vimineum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
2 <u>Lonicera japonica</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
3 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
4 <u>Celtis occidentalis</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
5 <u>Rosa multiflora</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
6 <u>Allium vineale</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
7 <u>Malus spp.</u>	<u>1</u>	<u>N</u>			
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>44</u> = Total Cover			Hydrophytic vegetation present? Yes _____ No <u>X</u>	
	50% of total cover <u>22</u>	20% of total cover: <u>8.8</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Parthenocissus quinquefolia</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
2 <u>Toxicodendron radicans</u>	<u>2</u>	<u>N</u>	<u>FAC</u>		
3 <u>Lonicera japonica</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
4 <u>Smilax rotundifolia</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
5 _____					
	<u>14</u> = Total Cover				
	50% of total cover <u>7</u>	20% of total cover: <u>2.8</u>			

Remarks: (If observed, list morphological adaptations below).
Mesic hardwood forest on slope below old railroad bed. Cover of trees rooted in adjacent wetland 15 feet away not counted above.

SOIL

Sampling Point: **02-WTL-46-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 4	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils are well drained and not hydric. Railroad fill may have eroded into this sample point.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-47-wet-1
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.601057 Long: -77.256682 Datum: NAD-1983
 Soil Map Unit Name: Sycoline-Kelly complex NWI classification: PFO/PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a very small low quality fringe wetland along Neabsco Creek, primarily above the OHWM. Approximately 5 percent of the area is covered in drift and trash. Field Sheet: 04AWTL11NC, NeabscoCreek fringe wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Frequent tides and storms blow drift and debris into wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-47-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Juglans nigra</u>	<u>2</u>		<u>UPL</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Echinochloa muricata</u>	<u>70</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Microstegium vimineum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3 <u>Panicum dichotomiflorum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4 <u>Polygonum persicaria</u>	<u>5</u>	<u>N</u>		
5 <u>Justicia americana</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>46</u> 20% of total cover: <u>18.4</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Smilax rotundifolia</u>	<u>1</u>		<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0.5</u> 20% of total cover: <u>0.2</u>				

Remarks: (If observed, list morphological adaptations below).
Most of the vegetation is denuded from frequent disturbance (trash, drift, and debris). Approximately 30 percent of the area is not vegetated. American water willow is only found in a small area closest to the OHWM.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR	5 / 2	100					sand	
3-12	10YR	3 / 2	95	10YR	5 / 1			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: Soils are adversely affected by wind and wave action in high tides.

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-47-wet-1

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	0	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	2	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 8

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-47-wet-1 Fringe wetland showing trash.



02-WTL-47-wet-1 Transition from mudflat to PEM.



02-WTL-47-wet-1 Denuded area in fringe wetland.



04-WTL-11-wet-1 Area along Neabsco Creek fringe wetland.
Notice the emergent vegetation in background.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-47-upl-1
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 4%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.601144 Long: -77.256599 Datum: NAD-1983
 Soil Map Unit Name: Sycoline-Kelly complex NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland?		
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>		Yes <u> </u>	No <u>X</u>
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>			
Remarks: Area is in upland near toe of CSX slope. It is too high to be tidally affected. Field sheet 04-A-WTL-11-upl1					

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches):	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-47-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Juglans nigra</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>4</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>57</u> x 3 = <u>171</u>	
	<u>10</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
	50% of total cover <u>5</u>	20% of total cover: <u>2</u>		UPL species <u>10</u> x 5 = <u>50</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>67</u> (A) <u>221</u> (B)	
1 <u>none</u>				Prevalence Index = B/A = <u>3.30</u>	
2 _____				Hydrophytic Vegetation Indicators:	
3 _____				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
4 _____				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
5 _____				<u> </u> 3 - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____					
8 _____					
	<u>0</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>		Definitions of Four Vegetation Strata:	
Herb Stratum (Plot Size: <u>5' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>Microstegium vimineum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 <u>Dichanthelium dichotomum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>50</u> = Total Cover			Hydrophytic vegetation present? Yes <u> </u> No <u>X</u>	
	50% of total cover <u>25</u>	20% of total cover: <u>10</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>7</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
	<u>7</u> = Total Cover				
	50% of total cover <u>3.5</u>	20% of total cover: <u>1.4</u>			

Remarks: (If observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 4	100					sandy loam	thin dark surface

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: Soils appear to be fill material for railroad. Lots of rocks and gravel in adjacent soil cores.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-48-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): 0-3%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.597009 Long: -77.257752 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This railroad ditch wetland flows north into a culvert. It has hydric soils, vegetation, and the requisite hydrology. Field Sheet: 04-A-WTL-14SP, wetland.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This railroad ditch wetland likely receives stormwater runoff and seep water from adjacent hillside. Soils were saturated until slope begins on the west and ballast starts on the east. Ditch wetland flows to the north and enters a culvert. Downstream end of the culvert was not found/located.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-48-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Rubus pensilvanicus</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
3				
4				
5				
6				
7				
8				
50% of total cover <u>10.5</u> 20% of total cover: <u>4.2</u>				
21 = Total Cover				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Phragmites australis</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Persicaria sagittata</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Lonicera japonica</u>	<u>20</u>	<u>N</u>	<u>FACU</u>	
4 <u>Microstegium vimineum</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
5 <u>Boehmeria cylindrica</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
6 <u>Athyrium asplenoides</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
7 <u>Mikania scandens</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
8 <u>Carex lurida</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
9				
10				
11				
12				
50% of total cover <u>62</u> 20% of total cover: <u>24.8</u>				
124 = Total Cover				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>26</u>	x 1 = <u>26</u>
FACW species <u>62</u>	x 2 = <u>124</u>
FAC species <u>37</u>	x 3 = <u>111</u>
FACU species <u>20</u>	x 4 = <u>80</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>145</u> (A)	<u>341</u> (B)

Prevalence Index = B/A = 2.35

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

Railroad ditch herbaceous wetland with young sweetgum along the outer margin.

SOIL

Sampling Point: **02-WTL-48-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4 / 1	100					silt loam	
6-12	10YR 6 / 1	95	10YR 6 / 8	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-48-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	This railroad ditch wetland has low values for wildlife due to its juxtaposition with the CSX rail.
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-48-wet Phragmites in railroad ditch wetland.



02-WTL-48-wet Wetland drains to this swale.



04-WTL-14-wet Typical vegetation wetland.



04-WTL-14-wet Phragmites in railroad ditch wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-48-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 40%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.597044 Long: -77.257863 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is an upland point for 04-WTL-14 (railroad ditch wetland). The area is well drained. Field Sheet: 04-A-WTL-14PC, upland.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is well drained and probably on the side of an old railroad bed.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-48-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liriodendron tulipifera</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2 <u>Quercus alba</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>6</u> (B)	
3 <u>Quercus rubra</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)	
4 <u>Sassafras albidum</u>	<u>3</u>	<u>N</u>	<u>FACU</u>		
5 _____					
6 _____					
7 _____					
8 _____					
<u>73</u> = Total Cover 50% of total cover <u>36.5</u> 20% of total cover: <u>14.6</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Asimina triloba</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>0</u> x 1 = <u>0</u>	
2 <u>Sassafras albidum</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	FACW species <u>2</u> x 2 = <u>4</u>	
3 <u>Liriodendron tulipifera</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	FAC species <u>12</u> x 3 = <u>36</u>	
4 <u>Liquidambar styraciflua</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	FACU species <u>85</u> x 4 = <u>340</u>	
5 <u>Fraxinus pennsylvanica</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	UPL species <u>0</u> x 5 = <u>0</u>	
6 <u>Quercus palustris</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	Column totals <u>99</u> (A) <u>380</u> (B)	
7 <u>Quercus rubra</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	Prevalence Index = B/A = <u>3.84</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>19</u> = Total Cover 50% of total cover <u>9.5</u> 20% of total cover: <u>3.8</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Liquidambar styraciflua</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>	Definitions of Four Vegetation Strata:	
2 <u>Asimina triloba</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 <u>Lonicera japonica</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>7</u> = Total Cover 50% of total cover <u>3.5</u> 20% of total cover: <u>1.4</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Vitis spp.</u>	<u>3</u>				
2 _____					
3 _____					
4 _____					
5 _____					
<u>3</u> = Total Cover 50% of total cover <u>1.5</u> 20% of total cover: <u>0.6</u>					

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-48-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 5 / 1	100					loam	
3-12	10YR 4 / 4	100					loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils are dry loamy and well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Woodbridge/Fairfax Sampling Date: September 14, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-49-wet
 Investigator(s): L. Postaski & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Railroad ditch Local relief (concave, convex, none): concave Slope (%): 3%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.596497 Long: -77.257628 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex, 0 to 7 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a narrow wetland ditch located on the east side of the railway and west of Neabsco Beach Way.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u>X</u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u>X</u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u>X</u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **A light gray silt coating is present on green herb leaves.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-49-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	Leersia oryzoides 50	Y	OBL
2	Microstegium vimineum 50	Y	FAC
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

100 = Total Cover
 50% of total cover: 50 20% of total cover: 20

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>50</u>	x 1 = <u>50</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>50</u>	x 3 = <u>150</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>100</u> (A)	<u>200</u> (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
No canopy present. Herbaceous layer is not very diverse.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR	3 / 2	100					Clay loam	
4-12	10YR	7 / 2	75	10YR	5 / 6	25		Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **With a value of 4 or more and a chroma of 2 or less, soils are depleted 4-12 inches below surface.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-49-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-49-wet

Culvert within wetland.



02-WTL-49-wet

Culvert within wetland.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **2-WTL-49-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	75	Y	FAC
2 Liriodendron tulipifera	5	N	FACU
3			
4			
5			
6			
7			
8			

80 = Total Cover
 50% of total cover: **40** 20% of total cover: **16**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	50	Y	FAC
2 Liquidambar styraciflua	30	Y	FAC
3			
4			
5			
6			
7			
8			

80 = Total Cover
 50% of total cover: **40** 20% of total cover: **16**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

0 = Total Cover
 50% of total cover: **0** 20% of total cover: **0**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Toxicodendron radicans	50	Y	
2			
3			
4			
5			

50 = Total Cover
 50% of total cover: **25** 20% of total cover: **10**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across all Strata: **4** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **75.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 155	x 3 = 465
FACU species 5	x 4 = 20
UPL species 0	x 5 = 0
Column totals 160 (A)	485 (B)

Prevalence Index = B/A = **3.03**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 2-WTL-49-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 6 / 6	100					Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **These upland soils are well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-50-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>92</u> x 1 = <u>92</u> FACW species <u>4</u> x 2 = <u>8</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>1</u> x 4 = <u>4</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>112</u> (A) <u>149</u> (B) Prevalence Index = B/A = <u>1.33</u> Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover <u>3</u> 20% of total cover: <u>1.2</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Liriodendron tulipifera</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
3				
4				
5				
6				
7				
8				
50% of total cover <u>3</u> 20% of total cover: <u>1.2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Leersia oryzoides</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Carex lurida</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Sparganium americanum</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
4 <u>Euthamia graminifolia</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
5 <u>Thelypteris palustris</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6 <u>Carex albolutescens</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
7 <u>Mikania scandens</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
8 <u>Juncus effusus</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
9 <u>Lycopus uniflorus</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
10				
11				
12				
50% of total cover <u>53</u> 20% of total cover: <u>21.2</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-50-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 1	100					silty clay loam	some sand in core

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)				
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **The soil at the sample point was very loose and mucky with a lot of organic matter.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-50-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	Very low functional values for wildlife due to proximity to the rail.
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-50-wet Linear railroad ditch wetland.



02-WTL-50-wet Low quality RR ditch wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-50-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 45%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.593634 Long: -77.258822 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is an upland data point on the hillslope above the railroad ditch 04-WTL-13. It is very well drained, but east facing and generally moist. Field Sheet: 04-A-WTL-13SP, Upland.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches):	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is steep and well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-50-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)	
2 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>11</u> (B)	
3 <u>Albizia julibrinin</u>	<u>20</u>	<u>Y</u>		Percent of Dominant Species that are OBL, FACW, or FAC: <u>54.55%</u> (A/B)	
4 <u>Prunus virginiana</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		
5 <u>Paulownia tomentosa</u>	<u>7</u>	<u>N</u>	<u>UPL</u>		
6 _____					
7 _____					
8 _____					
	<u>107</u> = Total Cover			Prevalence Index worksheet	
50% of total cover <u>53.5</u>		20% of total cover: <u>21.4</u>		Total % Cover of: _____ Multiply by: _____	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				OBL species <u>0</u> x 1 = <u>0</u>	
1 <u>Quercus marilandica</u>	<u>25</u>	<u>Y</u>		FACW species <u>2</u> x 2 = <u>4</u>	
2 <u>Liquidambar styraciflua</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	FAC species <u>99</u> x 3 = <u>297</u>	
3 <u>Acer rubrum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	FACU species <u>25</u> x 4 = <u>100</u>	
4 <u>Quercus alba</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	UPL species <u>7</u> x 5 = <u>35</u>	
5 <u>Fagus grandifolia</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	Column totals <u>133</u> (A) <u>436</u> (B)	
6 <u>Ilex opaca</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	Prevalence Index = B/A = <u>3.28</u>	
7 <u>Vaccinium corymbosum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators:	
8 _____				<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
	<u>64</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>32</u>		20% of total cover: <u>12.8</u>		Definitions of Four Vegetation Strata:	
Herb Stratum (Plot Size: <u>5' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
1 <u>Microstegium vimineum</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Quercus velutina</u>	<u>1</u>	<u>Y</u>			
3 <u>Quercus marilandica</u>	<u>1</u>	<u>Y</u>			
4 <u>Dichanthelium clandestinum</u>	<u>1</u>	<u>Y</u>	<u>FACW</u>		
5 <u>Aralia spinosa</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>		
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>5</u> = Total Cover				
50% of total cover <u>2.5</u>		20% of total cover: <u>1</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Lonicera japonica</u>	<u>3</u>		<u>FACU</u>		
2 <u>Smilax rotundifolia</u>	<u>1</u>		<u>FAC</u>		
3 _____					
4 _____					
5 _____					
	<u>4</u> = Total Cover				
50% of total cover <u>2</u>		20% of total cover: <u>0.8</u>		Hydrophytic vegetation present? Yes _____ No <u>X</u>	

Remarks: (If observed, list morphological adaptations below).
Dry-mesic young hardwood forest on old raised road or railroad grade.

SOIL

Sampling Point: **02-WTL-50-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 4	100					loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **These soils are in a steep slope and not hydric. Somewhat moist because of the east facing slope.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-51-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): draw Local relief (concave, convex, none): concave Slope (%): 0%
 Subregion (LRR or MLRA): LRR:P, MLRA: 133A Lat: 38.590796 Long: -77.260364 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a long linear wetland in the Leesylvania State Park upland. It is dominated by rice cut grass and Murdannia. In the area outside of the CSX study area it is more diverse with soft rush, Persicaria, and other wetland plants. Field Sheet: 04-A-WTL-12 sp, Wetland.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u>X</u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): 0-2 Water table present? Yes <u>X</u> No <u> </u> Depth (inches): surface Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Appears to have been impounded (man made) by three small berms. One at the southern end, one midway, and one well upstream to the west (not in the study area). Surface water is in an almost imperceptible channel through the wetland. Upstream there is a more sizable pool of water. Area appears to receive seep water from adjacent uplands.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-51-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2				
3				
4				
5				
6				
7				
8				
5 = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Murdannia keisak</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Leersia oryzoides</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Microstegium vimineum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4 <u>Arthraxon hispidus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5 <u>Persicaria sagittata</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
6				
7				
8				
9				
10				
11				
12				
106 = Total Cover 50% of total cover <u>53</u> 20% of total cover: <u>21.2</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>91</u>	x 1 = <u>91</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>111</u> (A)	<u>151</u> (B)

Prevalence Index = B/A = 1.36

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

Alluvial wet meadow. Other species locally important include *Bochmeria cylindrica*.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3 / 1	100					sandy clay loam	
3-10	10YR 5 / 2	98	10YR 5 / 6	2			sandy loam	few faint mottles
10+	10YR 5 / 4	95	10YR 6 / 8	5			sandy loam	more faint mottles

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: These were likely upland soils that have reduced over time. Likely accelerated by impounding the swale.

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-51-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 7

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-51-wet Small berm in wetland.



02-WTL-51-wet Berm and typical vegetation.



04-WTL-12-wet Upper end of wetland.



04-WTL-12-wet Wetland soils.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-51-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 40%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.590768 Long: -77.260261 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Plot is on brow of old raised road on railroad grade above 04-WTL-12. Field Sheet: 04+A-WTL-12SP, Upland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is very well drained and sloping.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-51-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1 <u>Acer rubrum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)			
2 <u>Liquidambar styraciflua</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>9</u> (B)			
3 <u>Robinia pseudoacacia</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>77.78%</u> (A/B)			
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>191</u> x 3 = <u>573</u> FACU species <u>11</u> x 4 = <u>44</u> UPL species <u>20</u> x 5 = <u>100</u> Column totals <u>222</u> (A) <u>717</u> (B) Prevalence Index = B/A = <u>3.23</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
5 _____							
6 _____							
7 _____							
8 _____							
75 = Total Cover							
50% of total cover <u>37.5</u>							
20% of total cover: <u>15</u>							
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status				
1 <u>Liquidambar styraciflua</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>				
2 <u>Asimina triloba</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>				
3 <u>Robinia pseudoacacia</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>				
4 _____							
5 _____							
6 _____							
7 _____							
8 _____							
70 = Total Cover							
50% of total cover <u>35</u>							
20% of total cover: <u>14</u>							
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status				
1 <u>Microstegium vimineum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____			
2 <u>Lonicera japonica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>				
3 <u>Asimina triloba</u>	<u>3</u>	<u>N</u>	<u>FAC</u>				
4 <u>Asplenium platyneuron</u>	<u>2</u>	<u>N</u>	<u>FACU</u>				
5 <u>Lespedeza cuneata</u>	<u>1</u>	<u>N</u>	<u>FACU</u>				
6 <u>Quercus alba</u>	<u>1</u>	<u>N</u>	<u>FACU</u>				
7 _____							
8 _____							
9 _____							
10 _____							
11 _____							
12 _____							
72 = Total Cover							
50% of total cover <u>36</u>							
20% of total cover: <u>14.4</u>							
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status				
1 <u>Lonicera japonica</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>				
2 <u>Vitis cinerea</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>				
3 <u>Smilax glauca</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>				
4 _____							
5 _____							
5 = Total Cover							
50% of total cover <u>2.5</u>							
20% of total cover: <u>1</u>							

Remarks: (If observed, list morphological adaptations below).
Young mesic hardwood forest on old raised road or railroad grade.

SOIL

Sampling Point: **02-WTL-51-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 4	100					loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Fill of old raised road or railroad grade.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-52-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.585051 Long: -77.264156 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: PEM/PSS

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is the fringe wetland area between the OHWM and the water at moderately high tide. The area is tidally affected and subject to much wind and wave action. There is a lot of debris, drift, and trash present. Field sheet <u>04-A-WTL-15-wet_LEWM</u> .	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>1</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Fresh or oligohaline intertidal shore marsh. Portions of fringe are inundated while others are saturated to the surface.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-52-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Platanus occidentalis</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)
2 <u>Salix nigra</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	Total Number of Dominant Species Across all Strata: <u>7</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>85.71%</u> (A/B)
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>60</u> x 1 = <u>60</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>95</u> (A) <u>140</u> (B) Prevalence Index = B/A = <u>1.47</u>
5 _____				
6 _____				
7 _____				
8 _____				
<u>35</u> = Total Cover 50% of total cover <u>17.5</u> 20% of total cover: <u>7</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Amorpha fruticosa</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Schoenoplectus pungens</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2 <u>Justicia americana</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Hydrilla verticillata</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>50</u> = Total Cover 50% of total cover <u>25</u> 20% of total cover: <u>10</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 _____				
3 _____				
4 _____				
5 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

Remarks: (If observed, list morphological adaptations below).
Fresh or oligohaline intertidal shoreline marsh. Other important species not in the plot: *Panicum virgatum*, *Symphytotrichum racemosum*, *Symphytotrichum lanceolatum*, *Symphytotrichum novi belgii*, *Hibiscus moscheutos*, *Cornus amomum*, *Pontederia cordata*, *Cephalanthus occidentalis*, and *Fraxinus pennsylvanicus*.

SOIL

Sampling Point: **02-WTL-52-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 4 / 4	100					sand	
8-12	10YR 6 / 1	98	10YR 5 / 6	2			sand	some silt in core

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input checked="" type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Area tidally affected. Deeper sands are much more gray with some silt in the core sample.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-52-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	2	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 7

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-52-wet PSS component of fringe wetland.



02-WTL-52-wet Wetland fringe.



02-WTL-52-wet Soil core.



04-WTL-15-wet Fringe wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-52-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Stream terrace Local relief (concave, convex, none): None Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.585326 Long: -77.264074 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This sample point is upslope from the Powell Creek fringe wetland. It is well drained and not a wetland. Field Sheet: 04-A-WTL-15SP, Upland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-52-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer saccharinum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)	
2 <u>Platanus occidentalis</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>7</u> (B)	
3 <u>Robinia pseudoacacia</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 <u>Salix nigra</u>	<u>1</u>	<u>N</u>	<u>OBL</u>		
5 _____					
6 _____					
7 _____					
8 _____					
56 = Total Cover				Prevalence Index worksheet	
50% of total cover <u>28</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>11.2</u>				OBL species <u>1</u> x 1 = <u>1</u>	
				FACW species <u>37</u> x 2 = <u>74</u>	
				FAC species <u>97</u> x 3 = <u>291</u>	
				FACU species <u>12</u> x 4 = <u>48</u>	
				UPL species <u>5</u> x 5 = <u>25</u>	
				Column totals <u>152</u> (A) <u>439</u> (B)	
				Prevalence Index = B/A = <u>2.89</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Asimina triloba</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
2 <u>Amorpha fruticosa</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
3 <u>Rubus pensilvanicus</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0	
4 <u>Fraxinus pennsylvanica</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	<u>_____</u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
31 = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>15.5</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>6.2</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Schedonorus arundinaceus</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Microstegium vimineum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>		
3 <u>Poa pratensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
4 <u>Clematis terniflora</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
5 <u>Tripsacum dactyloides</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
61 = Total Cover					
50% of total cover <u>30.5</u>					
20% of total cover: <u>12.2</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Clematis terniflora</u>	<u>2</u>		<u>FACU</u>		
2 <u>Smilax rotundifolia</u>	<u>1</u>		<u>FAC</u>		
3 <u>Vitis riparia</u>	<u>1</u>		<u>FACW</u>		
4 _____					
5 _____					
4 = Total Cover					
50% of total cover <u>2</u>					
20% of total cover: <u>0.8</u>					

Remarks: (If observed, list morphological adaptations below).
Border of maintained lawn-like habitat and mesic hardwood riparian forest.

SOIL

Sampling Point: **02-WTL-52-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 4 / 2		100					loamy sand	
3-12	10YR 4 / 4		95	10YR 5 / 6	5			sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This area is upslope from Powell Creek.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-53-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 3%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.583148 Long: -77.265372 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: PFO/PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a Powell Creek fringe wetland that is tidally affected. It transitions into a sandbar that proceeds north. There is SAV below the waterline - Hydrilla, Eurasian Water Milfoil, Plantain, and tapegrass. Field Sheet: 04-A-WTL-11 PC, Wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u>X</u> No <u> </u> Depth (inches): surface Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Data taken at low tide, however it appears that the area in the fringe wetland is routinely flooded/inundated with tides.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-53-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>20</u> = Total Cover 50% of total cover <u>10</u> 20% of total cover: <u>4</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>52</u> x 1 = <u>52</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>77</u> (A) <u>122</u> (B) Prevalence Index = B/A = <u>1.58</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>none</u>					Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Schoenoplectus pungens</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>		Hydrophytic vegetation present? Yes <u>X</u> No _____
2 <u>Justicia americana</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>		
3 <u>Commelina virginica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
4 <u>Bidens cernua</u>	<u>1</u>	<u>N</u>	<u>OBL</u>		
5 <u>Peltandra virginica</u>	<u>1</u>	<u>N</u>	<u>OBL</u>		
6 <u>Equisetum fluviatile</u>			<u>OBL</u>		
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>57</u> = Total Cover 50% of total cover <u>28.5</u> 20% of total cover: <u>11.4</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Linear fresh tidal marsh along sandy river shore under CSX bridge. Vines cover area outside wetland not counted above.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 4 / 4	100					sand	thin muck layer 10YR 3/1
10+	10YR 6 / 1	100					sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input checked="" type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: Soil colors do not indicate depleted matrix until 10 inches. Area is adversely affected by tides, waves, and large storm events. Soils are generally unstable and easily denuded.

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-53-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	3	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 9

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-53-wet Fringe wetland showing shallow root system.



02-WTL-53-wet Fringe wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Prince William County Sampling Date: October 21, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-53-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 15%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.5831 Long: -77.265339 Datum: NAD-1983
 Soil Map Unit Name: Urban land-Udorthents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is an upland point on raised area under bridge. It is high enough that it rarely, if ever, floods. This is on the south end of Powell Creek Bridge. Field sheet 04-A-WTL-11-up2_LEWM	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Herbaceous/vine community on probable fill. Area is well drained.**

SOIL

Sampling Point: **02-WTL-53-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 4	90					sand	10 % rock fill

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This is well drained fill material from railroad.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 13, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-54-wet-1
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): low stream terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.430688 Long: -77.345863 Datum: NAD-1983
 Soil Map Unit Name: Cut and fill land, Sassafras fine sandy loam is adjacent to data point NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This sample point is in the south end of the wetland. It is a broad flat herbaceous emergent wetland. The adjacent uplands are abrupt and easily identifiable. Field Sheet 06-WTL-02-01 N.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Strong sulfidic odor throughout the wetland. Portions of the wetland are inundated, but the sample point was just saturated to the surface. Water filled the soil core hole at 6 inches.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-54-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>95</u> x 1 = <u>95</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>105</u> (A) <u>120</u> (B) Prevalence Index = B/A = <u>1.14</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2				
3				
4				
5				
6				
7				
8				
5 = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Leersia oryzoides</u>	<u>95</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Echinochloa crus-galli</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
100 = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
100 = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Sweetgum along margins of wetland. The wetland is 90+% rice cutgrass throughout in monotypic stands.

SOIL

Sampling Point: **02-WTL-54-wet-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 5 / 2	60	2.5Y 5 / 1	40			silty clay loam	10% organic matter
4-12	2.5Y 5 / 1	98	10YR 5 / 6	2			silty clay loam	5% organic matter

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Very strong sulfide odor in soil core. Soil core hole filled with water at 6".**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-54-wet-1

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-54-wet-1 View facing south.



02-WTL-54-wet-1 View facing north.



02-WTL-54-wet-1 PEM habitat.



02-WTL-54-wet-1 Inundated portion of wetland.



02-WTL-54-wet-1 Upland (left) and wetland (right) soils.



02-WTL-54-wet-1 Beaver damage in wetland margin.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 13, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-54-upl-1
 Investigator(s): L. Eggering Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): ridge Local relief (concave, convex, none): sloping ridges Slope (%): 40%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.43068 Long: -77.345879 Datum: NAD-1983
 Soil Map Unit Name: Cut and fill land, Sassafras fine sandy loam is adjacent to data point NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u> X </u> Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Remarks: This is the upland sample point near the south end of the wetland. It is on a 40% slope. Field Sheet 06WTL-02N-01.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): Water table present? Yes <u> </u> No <u> X </u> Depth (inches): Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This sample point is in the adjacent ridge that is very well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-54-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Liquidambar styraciflua</u>	80	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>152</u> x 3 = <u>456</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>152</u> (A) <u>456</u> (B) Prevalence Index = B/A = <u>3.00</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
80 = Total Cover 50% of total cover <u>40</u> 20% of total cover: <u>16</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Liquidambar styraciflua</u>	40	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
40 = Total Cover 50% of total cover <u>20</u> 20% of total cover: <u>8</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Microstegium vimineum</u>	30	Y	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
11 _____	_____	_____	_____	
12 _____	_____	_____	_____	
30 = Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Smilax rotundifolia</u>	2	_____	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
2 = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				

Remarks: (If observed, list morphological adaptations below).
Some tulip poplar nearby, but not in the sample point. Bare ground is 40% of sample plot, as the area is slightly eroded.

SOIL

Sampling Point: **02-WTL-54-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 4	95	10YR 5 / 8				loam	few faint mottles

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Loamy soils appear to be well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 13, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-54-wet-2
 Investigator(s): L. Eggering, PWS Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): low stream terrace Local relief (concave, convex, none): flat/floodplain Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.432475 Long: -77.344313 Datum: NAD-1983
 Soil Map Unit Name: Cut and fill land, Fresh water swamp adjacent to data point NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is the second sample point in the large wetland along Boar Creek. Boar Creek is fully vegetated and imperceptible in much of the wetland. Field Sheet 06WTL02N-02.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u>X</u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Strong sulfidic odor.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-54-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>98</u> x 1 = <u>98</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>113</u> (A) <u>133</u> (B) Prevalence Index = B/A = <u>1.18</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2				
3				
4				
5				
6				
7				
8				
5 = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Leersia oryzoides</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Echinochloa crus-galli</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3 <u>Saururus cernuus</u>	<u>8</u>	<u>N</u>	<u>OBL</u>	
4				
5				
6				
7				
8				
9				
10				
11				
12				
108 = Total Cover 50% of total cover <u>54</u> 20% of total cover: <u>21.6</u>				Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

Remarks: (If observed, list morphological adaptations below).
The wetland is 90+% rice cutgrass. It is a PEM wetland. Beavers have cut down many of the sweetgum on the wetland. There is almost no woody vegetation in the wetland. Lizards tail grows primarily in the flooded area near the upland boundary.

SOIL

Sampling Point: **02-WTL-54-wet-2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹		
0-2	2.5Y	3 / 1	100					silt loam much organic matter
2-12	2.5Y	5 / 1	95	10YR	5 / 8	5		silty clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input checked="" type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: Soil colors are almost in the gley page, but not quite. Very strong sulfidic odor. There was a lot of organic matter in the soil core.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-54-upl-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Liquidambar styraciflua</u>	95	Y	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
95 = Total Cover 50% of total cover <u>47.5</u> 20% of total cover: <u>19</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>227</u> x 3 = <u>681</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>227</u> (A) <u>681</u> (B) Prevalence Index = B/A = <u>3.00</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Liquidambar styraciflua</u>	40	Y	FAC	
2 <u>Asimina triloba</u>	2	N	FAC	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
42 = Total Cover 50% of total cover <u>21</u> 20% of total cover: <u>8.4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Microstegium vimineum</u>	90	Y	FAC	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
90 = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 _____				
3 _____				
4 _____				
5 _____				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <u>X</u> No _____				

Remarks: (If observed, list morphological adaptations below).
A few scattered paw paw, but not dominant. Since this area receives a lot of sunlight, Japanese stiltgrass dominates the understory herb layer.

SOIL

Sampling Point: **02-WTL-54-upl-2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹		
0-12	10YR	5 / 4	95	10YR	5 / 6	5		loam	few faint mottles

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Some faint mottles, but the soil is clearly upland.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 12, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-55-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): fringe Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.423912 Long: -77.353727 Datum: NAD-1983
 Soil Map Unit Name: Cut and fill land, adjacent to location is Sassafras fine sandy loam NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a fringe wetland along Aquia Creek. The boundaries are well defined by the adjacent upland and the Aquia Creek waterline. Field Sheet 06-WTL-01 wet N01.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): surface Water table present? Yes <u>X</u> No <u> </u> Depth (inches): surface Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area receives seep water from Aquia Creek and possibly from adjacent bluff to the north.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-55-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across all Strata: <u>6</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Ailanthus altissima</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4 <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5 _____				
6 _____				
7 _____				
8 _____				
<u>60</u> = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>17</u> x 1 = <u>17</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>65</u> x 3 = <u>195</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>102</u> (A) <u>272</u> (B) Prevalence Index = B/A = <u>2.67</u> Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Microstegium vimineum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Leersia oryzoides</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Murdannia keisak</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4 <u>Symphyotrichum lateriflorum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5 <u>Iris pseudacorus</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>32</u> = Total Cover 50% of total cover <u>16</u> 20% of total cover: <u>6.4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).
Lizards tail in wetter areas; data point at edge of wetland. 1 Symphyotrichum lateriflorum.

SOIL

Sampling Point: **02-WTL-55-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Matrix			Redox Features				Texture	Remarks	
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²			
0-12	2.5Y	3 / 1	95	10YR	5 / 6	5	C	PL/M	Sandy loam	Very dark, reduced soil.

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **The soil sample was very dark and reduced throughout.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-55-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-55-wet Aqua Creek fringe wetland.



02-WTL-55-wet Adjacent upland data point.



02-WTL-55-wet Edge of Aqua Creek.



02-WTL-55-wet Typical habitat.



02-WTL-55-wet Habitat in fringe wetland.



02-WTL-55-wet Area under Aqua Creek bridge.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 12, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-55-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.4240549 Long: -77.353745 Datum: NAD-1983
 Soil Map Unit Name: Cut and fill land, adjacent to location is Sassafras fine sandy loam NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No <u> </u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is the upland data point near the fringe wetland along Aquia Creek. Field Sheet 06-WTL-01-UP N01			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches):	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland sample point NW of wetland, slopes sharply and is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-55-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Ulmus americana</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>4</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____	<u>40</u>	= Total Cover		OBL species <u>0</u>	x 1 = <u>0</u>
7 _____	<u>20</u>	50% of total cover		FACW species <u>0</u>	x 2 = <u>0</u>
8 _____	<u>8</u>	20% of total cover:		FAC species <u>60</u>	x 3 = <u>180</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				FACU species <u>10</u>	x 4 = <u>40</u>
1 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	UPL species <u>0</u>	x 5 = <u>0</u>
2 _____				Column totals <u>70</u>	(A) <u>220</u> (B)
3 _____				Prevalence Index = B/A = <u>3.14</u>	
4 _____				Hydrophytic Vegetation Indicators:	
5 _____				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
6 _____				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
7 _____				<u> </u> 3 - Prevalence Index is ≤3.0	
8 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Microstegium vimineum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Definitions of Four Vegetation Strata:	
2 <u>Verbesina occidentalis</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
6 _____				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
Remarks: (If observed, list morphological adaptations below).					

SOIL

Sampling Point: **02-WTL-55-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	2.5Y 3 / 1	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This appears to be fill from an adjacent railroad bridge construction. It does not appear to be a natural soil when compared to the other soils nearby. Soil colors match depleted matrix but this fill soil is not hydric.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 12, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-56-wet-1
 Investigator(s): L. Eggering, W. Moorhead, D. Mitchell, K. Astrc Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.41934 Long: -77.358666 Datum: NAD-1983
 Soil Map Unit Name: Cut and fill land, Tidal marsh is adjacent to data point NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: The uppermost end of this wetland is in the study area.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): 10 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

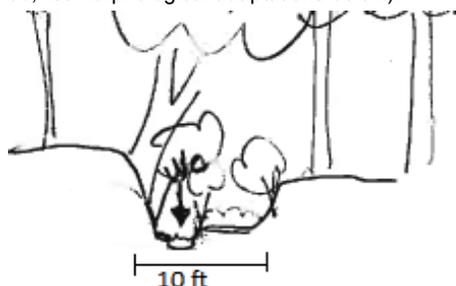
Remarks: **Soil cores were very moist 0-8 inches and saturated at 10 inches. The wetland spreads out and gets wider outside of the study area in the gas line ROW.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **J2-WTL-56-wet'**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>6</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>83.33%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>40</u>	x 1 = <u>40</u>
7 _____				FACW species <u>43</u>	x 2 = <u>86</u>
8 _____				FAC species <u>15</u>	x 3 = <u>45</u>
	<u>0</u> = Total Cover			FACU species <u>0</u>	x 4 = <u>0</u>
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>		UPL species <u>0</u>	x 5 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>98</u>	(A) <u>171</u> (B)
1 <u>Ilex opaca</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Prevalence Index = B/A = <u>1.74</u>	
2 <u>Cornus rugosa</u>	<u>5</u>	<u>Y</u>		Hydrophytic Vegetation Indicators:	
3 <u>Ilex verticillata</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
4 <u>Vaccinium corymbosum</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
5 <u>Aronia arbutifolia</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	<input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8 _____				Definitions of Four Vegetation Strata:	
	<u>27</u> = Total Cover			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
	50% of total cover <u>13.5</u>	20% of total cover: <u>5.4</u>		Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
1 <u>Woodwardia areolata</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
2 <u>Leersia virginica</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3 <u>Viburnum dentatum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
4 <u>unknown</u>	<u>5</u>	<u>N</u>			
5 <u>Osmunda regalis</u>	<u>5</u>	<u>N</u>			
6 <u>Aronia arbutifolia</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
7 <u>Athyrium filix-femina</u>	<u>1</u>	<u>N</u>			
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>87</u> = Total Cover				
	50% of total cover <u>43.5</u>	20% of total cover: <u>17.4</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).



SOIL

Sampling Point: **02-WTL-56-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 1	98	10YR 5 / 8	2			sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Wetland soils were significantly reduced compared to adjacent uplands.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-56-wet-1

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-56-wet-1 Soil cores.



02-WTL-56-wet-1 Field team in upper end of wetland.



02-WTL-56-wet-1 Portion of wetland outside study area.



02-WTL-56-wet-1 Wetland outside the study area.



02-WTL-56-wet-1 Hillslope into the wetland.



02-WTL-56-wet-1 Small area extending northwest into study area.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA- Area 2 City/County: Stafford County Sampling Date: October 12, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-56-upl-1
 Investigator(s): L. Eggering, W. Moorhead, D. Mitchell, K. Astrc Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.419183 Long: -77.358837 Datum: NAD-1983
 Soil Map Unit Name: Cut and fill land, Tidal marsh is located adjacent to data point NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This sample point is in the upland area south of 06-WTL-01-wet. The area is well drained, contains upland plants, and does not have the requisite wetland hydrology.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): 10 (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is an upland south of wetland that is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-56-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Acer rubrum</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)
2 <u>Liquidambar styraciflua</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Prunus serotina</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>10</u> (B)
4 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>70.00%</u> (A/B)
5 _____				
6 _____				Prevalence Index worksheet
7 _____				
8 _____				Total % Cover of: _____ Multiply by: _____
_____ = Total Cover	<u>80</u>			OBL species <u>0</u> x 1 = <u>0</u>
50% of total cover <u>40</u>		<u>16</u>		FACW species <u>7</u> x 2 = <u>14</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				FAC species <u>106</u> x 3 = <u>318</u>
1 <u>Nyssa sylvatica</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	FACU species <u>31</u> x 4 = <u>124</u>
2 <u>Aralia spinosa</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	UPL species <u>0</u> x 5 = <u>0</u>
3 <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	Column totals <u>144</u> (A) <u>456</u> (B)
4 <u>Fagus grandifolia</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
5 <u>unknown</u>	<u>3</u>	<u>N</u>	<u>NA</u>	Prevalence Index = B/A = <u>3.17</u>
6 <u>Liquidambar styraciflua</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators:
7 <u>Quercus velutina</u>	<u>2</u>	<u>N</u>		<u> </u> 1 -Rapid Test for Hydrophytic Vegetation
8 <u>Ilex opaca</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
_____ = Total Cover	<u>29</u>			<u> </u> 3 - Prevalence Index is ≤3.0
50% of total cover <u>14.5</u>		<u>5.8</u>		<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Lonicera japonica</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2 <u>Rubus sp.</u>	<u>5</u>	<u>Y</u>		Definitions of Four Vegetation Strata:
3 <u>Sassafras albidum</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
4 <u>Prunus serotina</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
5 <u>Quercus phellos</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
6 <u>Quercus marilandica</u>	<u>2</u>	<u>N</u>		Woody vines - All woody vines greater than 3.28 ft in height.
7 <u>Smilax rotundifolia</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover	<u>27</u>			
50% of total cover <u>13.5</u>		<u>5.4</u>		
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Vitis cinerea</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____
2 <u>Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3 _____				
4 _____				
5 _____				
_____ = Total Cover	<u>20</u>			
50% of total cover <u>10</u>		<u>4</u>		

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-56-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 6	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This is an upland soil sample that is well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 12, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-56-wet-2
 Investigator(s): L. Eggering, W. Moorhead, D. Mitchell, K. Astrc Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.417413 Long: -77.360435 Datum: NAD-1983
 Soil Map Unit Name: Cut and fill land, adjacent to Tidal marsh NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This sample point is in an upper corner of the overall larger tidally affected wetland. Culvert 38.417296, -77.360738.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): Surface Water table present? Yes <u>X</u> No <u> </u> Depth (inches): 6" Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): 1-6" (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Saturated & inundated. Hydrology is part of a small perennial stream flowing into a larger wetland complex.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-56-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>4</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>85</u> x 1 = <u>85</u>	
7 _____				FACW species <u>17</u> x 2 = <u>34</u>	
8 _____				FAC species <u>78</u> x 3 = <u>234</u>	
	<u>60</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
	50% of total cover <u>30</u>	20% of total cover: <u>12</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>180</u> (A) <u>353</u> (B)	
1 <u>Lindera benzoin</u>	<u>12</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index = B/A = <u>1.96</u>	
2 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators:	
3 <u>Viburnum nudum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5 _____				Definitions of Four Vegetation Strata:	
6 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
7 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
8 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
9 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
10 _____					
11 _____					
12 _____					
	<u>27</u> = Total Cover				
	50% of total cover <u>13.5</u>	20% of total cover: <u>5.4</u>			
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Leersia oryzoides</u>	<u>85</u>	<u>Y</u>	<u>OBL</u>		
2 <u>Smilax rotundifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>90</u> = Total Cover				
	50% of total cover <u>45</u>	20% of total cover: <u>18</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>3</u>		<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
	<u>3</u> = Total Cover				
	50% of total cover <u>1.5</u>	20% of total cover: <u>0.6</u>			

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-56-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 1	100					clay loam	saturated

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
 Hydric soil present? Yes No

Remarks: **Saturated, reduced soils. Soil part of larger wetland complex and backwater to the Potomac. Although the soil value and chroma are indicative of redox dark surface, there is an apparent lack of redoximorphic features. It is likely that the dark organic matter within the soil is masking some or all of the concentrations that may be present.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-56-wet-2

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-56-wet-2 Wetland habitat near data point.



02-WTL-56-wet-2 Larger portion of wetland outside of the study area.



02-WTL-56-wet-2 Upland (left) and wetland (right) soils.



02-WTL-56-wet-2 Mowed utility ROW.



02-WTL-56-wet-2 Interior portion of wetland.



02-WTL-56-wet-2 Wetland habitat.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 12, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-56-upl-2
 Investigator(s): L. Eggering, W. Moorhead, D. Mitchell, K. Astrc Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.417371 Long: -77.360543 Datum: NAD-1983
 Soil Map Unit Name: Cut and fill land, adjacent to tidal marsh NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is an upland point.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland area adjacent to stream does not possess any wetland hydrology indicators.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-56-upl-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Acer rubrum</u>	<u>85</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
2 <u>Liquidambar styraciflua</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>100</u> = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>2</u> x 2 = <u>4</u> FAC species <u>124</u> x 3 = <u>372</u> FACU species <u>41</u> x 4 = <u>164</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>167</u> (A) <u>540</u> (B) Prevalence Index = B/A = <u>3.23</u> Hydrophytic Vegetation Indicators: <u>1</u> -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 _____ Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Liquidambar styraciflua</u>	<u>2</u>		<u>FAC</u>	
2 <u>Fagus grandifolia</u>	<u>1</u>		<u>FACU</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>3</u> = Total Cover 50% of total cover <u>1.5</u> 20% of total cover: <u>0.6</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Lonicera japonica</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Ilex opaca</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
3 <u>Dichanthelium clandestinum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
4 <u>Carex debilis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>44</u> = Total Cover 50% of total cover <u>22</u> 20% of total cover: <u>8.8</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Smilax rotundifolia</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
<u>20</u> = Total Cover 50% of total cover <u>10</u> 20% of total cover: <u>4</u>				
				Hydrophytic vegetation present? Yes <u>X</u> No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **02-WTL-56-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 6	100					sandy loam	dry

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soil is uniform in upper 12", no signs of hydrological impacts.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 12, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-56-wet-3
 Investigator(s): L. Eggering, W. Moorhead, D. Mitchell, K. Astrc Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.416193 Long: -77.361276 Datum: NAD-1983
 Soil Map Unit Name: Cut and fill land, Fresh water swamp is located adjacent to data point NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland point had been cutover in the recent past.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): surface Water table present? Yes <u>X</u> No <u> </u> Depth (inches): surface Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology due to backwater of Potomac and is tidally affected in some portions of the wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-56-wet-3**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Alnus serrulata</u>	<u>3</u>		<u>FACW</u>	
2 <u>Quercus phellos</u>	<u>1</u>		<u>FACW</u>	
3				
4				
5				
6				
7				
8				
50% of total cover <u>2</u> 20% of total cover: <u>0.8</u>				
4 = Total Cover				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Leersia oryzoides</u>	<u>70</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Microstegium vimineum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Sagittaria sagittata</u>	<u>30</u>	<u>Y</u>		
4 <u>Boehmeria cylindrica</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>70</u> 20% of total cover: <u>28</u>				
140 = Total Cover				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>70</u>	x 1 = <u>70</u>
FACW species <u>14</u>	x 2 = <u>28</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>114</u> (A)	<u>188</u> (B)

Prevalence Index = B/A = 1.65

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Vernonia noveboracensis and Thelypteris palustris are also present in wetland, but not within surveyed plot.

SOIL

Sampling Point: **02-WTL-56-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 1	100					clay	very saturated

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Hydric soils associated with wetland backwater area of Potomac. Soils were very dark and clearly reduced.**

WETLAND FUNCTIONS & VALUES FORM

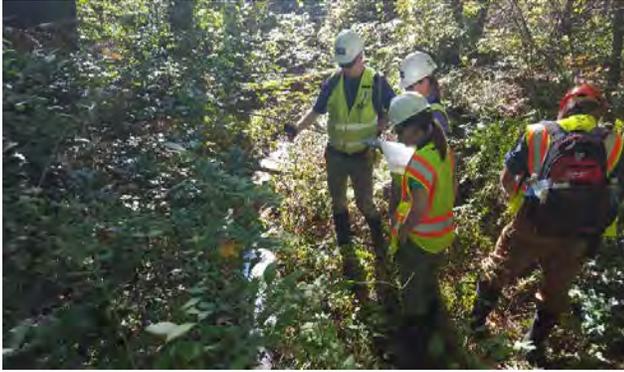
Wetland I.D.: 02-WTL-56-wet-3

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	Considering the maintained utility ROW and disturbance from the CSX operations, the overall wildlife habitat is poor to low.
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	3	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-56-wet-3 Field crew in upper tributary to wetland.



02-WTL-56-wet-3 Upland soil (left) wetland soil (right).



02-WTL-56-wet-3 Mowed ROW through wetland.



02-WTL-56-wet-3 Mowed ROW and cutover timber to the left (south).

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 12, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-56-upl-3
 Investigator(s): L. Eggering, W. Moorhead, D. Mitchell, K. Astrc Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.416353 Long: -77.361377 Datum: NAD-1983
 Soil Map Unit Name: Cut and fill land, Fresh water swamp located adjacent to data point NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is an upland data point.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland hydrology.**

SOIL

Sampling Point: **02-WTL-56-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)	%		Color (moist)	%	Type ¹		
0-12	10YR 5 / 3	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **No indication of wetland.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 12, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-56-wet-4
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): < 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.415071 Long: -77.362075 Datum: NAD-1983
 Soil Map Unit Name: Cut and fill land, Fresh water swamp located adjacent to data point NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is the southern end of 06-WTL-01 near 06-STR-03. The area has a high water table and is connected to the Potomac River located to the north. Field Sheet 06-WTL-01-wet-4.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <u> </u> <input checked="" type="checkbox"/> High Water Table (A2) <u> </u> <input checked="" type="checkbox"/> Saturation (A3) <u> </u> <input type="checkbox"/> Water Marks (B1) <u> </u> <input type="checkbox"/> Sediment Deposits (B2) <u> </u> <input type="checkbox"/> Drift Deposits (B3) <u> </u> <input type="checkbox"/> Algal Mat or Crust (B4) <u> </u> <input type="checkbox"/> Iron Deposits (B5) <u> </u> <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <u> </u> <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <u> </u>	<input type="checkbox"/> Surface Soil Cracks (B6) <u> </u> <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <u> </u> <input type="checkbox"/> Drainage Patterns (B10) <u> </u> <input type="checkbox"/> Moss Trim Lines (B16) <u> </u> <input type="checkbox"/> Dry-Season Water Table (C2) <u> </u> <input checked="" type="checkbox"/> Crayfish Burrows (C8) <u> </u> <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <u> </u> <input type="checkbox"/> Geomorphic Position (D2) <u> </u> <input type="checkbox"/> Shallow Aquitard (D3) <u> </u> <input type="checkbox"/> FAC-Neutral Test (D5) <u> </u> <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U) <u> </u>

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): 2-3 Water table present? Yes <u>X</u> No <u> </u> Depth (inches): 0 Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area is connectd to the Potomac River located to the NE and received events from the adjacent hillside along with overflow flooding from 06-STR-03.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-56-wet-4**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Murdannia keisak</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Microstegium vimineum</u>	<u>20</u>	<u>N</u>	<u>FAC</u>	
3 <u>Leersia oryzoides</u>	<u>20</u>	<u>N</u>	<u>OBL</u>	
4 <u>Boehmeria cylindrica</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
5 <u>Panicum arifolia</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
6 <u>Cinna arundinacea</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>53.5</u> 20% of total cover: <u>21.4</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (If observed, list morphological adaptations below). Wet meadow in gas ROW, kept treeless by management				

SOIL

Sampling Point: **02-WTL-56-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5YR 4 / 1	90	10YR 5 / 8	10			silt loam	
3-12	10B 6 / 8	80	2.5YR 4 / 8	20			silt loam	Gley 2 6/10B mottles prominent

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **This soil is very gleyed with prominent orange mottles and iron-manganese masses. Darker near the surface.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-56-wet-4

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	3	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	2	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 12

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-56-wet-4 View of wet meadow in gasoline ROW



02-WTL-56-wet-4 Wet meadow



02-WTL-56-wet-4 Gasoline ROW



02-WTL-56-wet-4 Wet meadow



02-WTL-56-wet-4 Wetland soils



02-WTL-56-wet-4 Upland soils

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-56-upl-4**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>65</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u>	(A)
2 <u>Liriodendron tulipifera</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>8</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>7</u> x 2 = <u>14</u>	
8 _____				FAC species <u>74</u> x 3 = <u>222</u>	
	<u>70</u> = Total Cover			FACU species <u>39</u> x 4 = <u>156</u>	
	50% of total cover <u>35</u>			UPL species <u>0</u> x 5 = <u>0</u>	
	20% of total cover: <u>14</u>			Column totals <u>120</u> (A) <u>392</u> (B)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>3.27</u>	
1 <u>Fagus grandifolia</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
2 <u>Ilex verticillata</u>	<u>7</u>	<u>Y</u>	<u>FACW</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
3 <u>Sassafras albidum</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	<u> </u> 2 - Dominance Test is >50%	
4 _____				<u> </u> 3 - Prevalence Index is ≤3.0	
5 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
6 _____					
7 _____					
8 _____					
	<u>22</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>11</u>			Definitions of Four Vegetation Strata:	
	20% of total cover: <u>4.4</u>			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
1 <u>Lonicera japonica</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2 <u>Sassafras albidum</u>	<u>4</u>	<u>Y</u>	<u>FACU</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
3 <u>Smilax rotundifolia</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>20</u> = Total Cover			Hydrophytic vegetation present? Yes <u> </u> No <u> X</u>	
	50% of total cover <u>10</u>				
	20% of total cover: <u>4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Campsis radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Toxicodendron radicans</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>		
3 _____					
4 _____					
5 _____					
	<u>8</u> = Total Cover				
	50% of total cover <u>4</u>				
	20% of total cover: <u>1.6</u>				

Remarks: (If observed, list morphological adaptations below).
Low slope mesic hardwood forest between service road & wetland basin.

SOIL

Sampling Point: **02-WTL-56-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	7.5YR 3 / 4	100					sandy loam	
4-12	7.5YR 4 / 4	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This soil is dry and very sandy, has a reddish dark brown tint.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 12, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-57-wet-1
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): depression/valley Local relief (concave, convex, none): none Slope (%): <1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.41194756 Long: -77.36294454 Datum: NAD-1983
 Soil Map Unit Name: Fresh Water Swamp NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a small valley between the railroad and an upland ridge to the west. 06-STR-04 runs along the east side and north end. Field Sheet 06-WTL-02-wet.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u>X</u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): 10 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area is poorly drained and appears to get some overflow flooding from 06-STR-04.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-57-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2 _____				Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of: _____ Multiply by: _____	
6 _____				OBL species <u>34</u> x 1 = <u>34</u>	
7 _____				FACW species <u>14</u> x 2 = <u>28</u>	
8 _____				FAC species <u>50</u> x 3 = <u>150</u>	
	<u>0</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
50% of total cover <u>0</u>		20% of total cover: <u>0</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>98</u> (A) <u>212</u> (B)	
1 <u>none</u>				Prevalence Index = B/A = <u>2.16</u>	
2 _____				Hydrophytic Vegetation Indicators:	
3 _____				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
4 _____				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
5 _____				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____					
8 _____					
	<u>0</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>0</u>		20% of total cover: <u>0</u>		Definitions of Four Vegetation Strata:	
Herb Stratum (Plot Size: <u>5' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>Microstegium vimineum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 <u>Murdannia keisak</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 <u>Eupatorium perfoliatum</u>	<u>12</u>	<u>N</u>	<u>FACW</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
4 <u>Leersia oryzoides</u>	<u>4</u>	<u>N</u>	<u>OBL</u>		
5 <u>Boehmeria cylindrica</u>	<u>2</u>	<u>N</u>	<u>FACW</u>		
6 _____			<u>FACW</u>		
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>98</u> = Total Cover				
50% of total cover <u>49</u>		20% of total cover: <u>19.6</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
50% of total cover <u>0</u>		20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).
Cinna arundinacea also present in wetland, but not in plot surveyed. Alluvial wet meadow in gas pipeline ROW, transected by small stream with scattered depressions with Sparganium spp. and Murdannia.

SOIL

Sampling Point: **02-WTL-57-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5YR 4 / 2	50	2.5YR 4 / 8	50			silt loam	reddish tint near surface
3-15	10B	80	2.5YR 4 / 8	20			silty clay	Gley 2 6/10B, very gleyed with bl features

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: Soils strongly reduced.

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-57-wet-1

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 7

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-57-wet-1 PEM portion of wetland



02-WTL-57-wet-1 PEM portion of wetland



02-WTL-57-wet-1 PEM portion of wetland



02-WTL-57-wet-1 PEM portion of wetland



02-WTL-57-wet-1 Wetland soil core



02-WTL-57-wet-1 Wetland soil core

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 12, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-57-upl-1
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.41086147 Long: -77.36324187 Datum: NAD-1983
 Soil Map Unit Name: Sandy and clayey land, steep, Sassafras and Caroline materials NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: On hillslope between railroad fill and 06-WTL-02. Field Sheet 06-WTL-02-UPL.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No hydrology indicators.	

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-57-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)	
2 <u>Carya myristiciformis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>6</u> (B)	
3 <u>Liriodendron tulipifera</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>65</u> = Total Cover 50% of total cover <u>32.5</u> 20% of total cover: <u>13</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>0</u> x 1 = <u>0</u>	
2 <u>Fagus grandifolia</u>	<u>7</u>	<u>Y</u>	<u>FACU</u>	FACW species <u>24</u> x 2 = <u>48</u>	
3 <u>Cornus florida</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	FAC species <u>95</u> x 3 = <u>285</u>	
4 <u>Lindera benzoin</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	FACU species <u>29</u> x 4 = <u>116</u>	
5 _____				UPL species <u>0</u> x 5 = <u>0</u>	
6 _____				Column totals <u>148</u> (A) <u>449</u> (B)	
7 _____				Prevalence Index = B/A = <u>3.03</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>30</u> = Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Microstegium vimineum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Definitions of Four Vegetation Strata:	
2 <u>Lindera benzoin</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 <u>Lonicera japonica</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 <u>Liquidambar styraciflua</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 <u>Rubua spp.</u>	<u>1</u>	<u>N</u>		Woody vines - All woody vines greater than 3.28 ft in height.	
6 <u>Amphicarpaea bracteata</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
7 <u>Asplenium platyneuron</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
8 <u>Collinsonia canadensis</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
9 <u>Viburnum rafinesqueanum</u>	<u>1</u>	<u>N</u>			
10 <u>Solidago rugosa</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
11 <u>Carya ovata</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
12 <u>Polystichum acrostichoides</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
<u>55</u> = Total Cover 50% of total cover <u>27.5</u> 20% of total cover: <u>11</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Mesic low-slope hardwood forest, transected by service road.

SOIL

Sampling Point: **02-WTL-57-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	7.5YR 3 / 4	90	10YR 5 / 4	10			sandy loam	
4-12	7.5YR 4 / 4	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Soil is dry, has a reddish tint.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 13, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-57-wet-2
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): valley Local relief (concave, convex, none): slight concave Slope (%): <1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.40896513 Long: -77.36316124 Datum: NAD-1983
 Soil Map Unit Name: Fresh Water Swamp NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a bottomland hardwood portion of 06-WTL-02 near the southern end, east of the channel of 06-STR-04. 06-WTL-02 #2 wet.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u>X</u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u>X</u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u>X</u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u>X</u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): 1-2 Water table present? Yes <u>X</u> No <u> </u> Depth (inches): 1-1.5 Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): 6 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Appears to be a high water table and receives runoff from adjacent hills. 06-STR-04 likely overflows in this area. Much beaver activity present.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-57-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Platanus occidentalis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3 _____			<u>FACW</u>	
4 _____			<u>FACU</u>	
5 _____				
6 _____				
7 _____				
8 _____				
<u>55</u> = Total Cover 50% of total cover <u>27.5</u> 20% of total cover: <u>11</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>9</u> x 2 = <u>18</u> FAC species <u>74</u> x 3 = <u>222</u> FACU species <u>6</u> x 4 = <u>24</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>99</u> (A) <u>274</u> (B) Prevalence Index = B/A = <u>2.77</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Asimina triloba</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Carpinus caroliniana</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Quercus rubra</u>	<u>4</u>	<u>N</u>	<u>FACU</u>	
4 <u>Fagus spp.</u>	<u>4</u>	<u>N</u>		
5 <u>Liquidambar styraciflua</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	
6 <u>Vaccinium corymbosum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
7 _____				
8 _____				
<u>28</u> = Total Cover 50% of total cover <u>14</u> 20% of total cover: <u>5.6</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Leersia oryzoides</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Asimina triloba</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	
3 <u>Fagus grandifolia</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
4 <u>Liquidambar styraciflua</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
5 <u>Onoclea sensibilis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
6 <u>Carex spp.</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
7 <u>Smilax rotundifolia</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>20</u> = Total Cover 50% of total cover <u>10</u> 20% of total cover: <u>4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Bottomland hardwood swamp (non-rivine - appears to maybe be on alluvium of small stream). Plot includes side of ditch that is now part of a beaver impoundment. Photo 199-0282. Betula nigra, Liriodendron tulipifera, Microstegium vimineum, Athyrium filix-femina, Parathelypteris noveboracensis, Euonymus americanus, Cinna arundinacea are not within the plot, however are important species in the wetland.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5YR 2 / 1	80	2.5YR 2 / 4	20			silt loam	fine soils
3-10	2.5Y 4 / 1	90	2.5YR 3 / 6	5			silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **The soil is darker in the upper layer, and becomes more gray with depth and becomes saturated and more gray with orange mottles.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-57-wet-2

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	2	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	3	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 12

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-57-wet-2 Beaver activity in wetland



02-WTL-57-wet-2 Forested portion of wetland



02-WTL-57-wet-2 Forested portion of wetland



02-WTL-57-wet-2 Wetland soil core



02-WTL-57-wet-2 Upland



02-WTL-57-wet-2 Upland soil core

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-57-upl-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)
2 <u>Liriodendron tulipifera</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>5</u>	(B)
3 <u>Quercus rubra</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>20.00%</u>	(A/B)
4 <u>Betula nigra</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
5 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
6 <u>Carya caroliniana</u>	<u>5</u>	<u>N</u>			
7 _____					
8 _____					
Total Cover <u>95</u>					
50% of total cover <u>47.5</u>					
20% of total cover: <u>19</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet	
1 <u>Fagus grandifolia</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	Total % Cover of: <u>0</u>	Multiply by: <u>0</u>
2 <u>Vaccinium corymbosum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	OBL species <u>0</u> x 1 = <u>0</u>	
3 <u>Nyssa sylvatica</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	FACW species <u>11</u> x 2 = <u>22</u>	
4 <u>Carya ovata</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	FAC species <u>43</u> x 3 = <u>129</u>	
5 _____				FACU species <u>68</u> x 4 = <u>272</u>	
6 _____				UPL species <u>0</u> x 5 = <u>0</u>	
7 _____				Column totals <u>122</u> (A) <u>423</u> (B)	
8 _____				Prevalence Index = B/A = <u>3.47</u>	
Total Cover <u>27</u>					
50% of total cover <u>13.5</u>					
20% of total cover: <u>5.4</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1 <u>Fagus spp.</u>	<u>5</u>	<u>Y</u>		1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Carex albicans</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	2 - Dominance Test is >50%	
3 <u>Euonymus americanus</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	3 - Prevalence Index is ≤3.0	
4 <u>Acer rubrum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	Problematic Hydrophytic Vegetation ¹ (Explain)	
5 <u>Dioscorea villosa</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
6 <u>Prunus serotina</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
Total Cover <u>10</u>					
50% of total cover <u>5</u>					
20% of total cover: <u>2</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Four Vegetation Strata:	
1 <u>none</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
2 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
3 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
4 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
5 _____					
Total Cover <u>0</u>					
50% of total cover <u>0</u>					
20% of total cover: <u>0</u>					
				Hydrophytic vegetation present? Yes _____ No <u>X</u>	

Remarks: (If observed, list morphological adaptations below).
Mesic or dry-mesic upland hardwood forest that is on a natural slope above cut slope of recently installed gas pipeline ROW -just above stream and wetland. Slope here resembles that in gas ROW. *Isotina potentilla* habitat. *Carpinus caroliniana* are in habitat, however not within the sample plot.

SOIL

Sampling Point: **02-WTL-57-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3 / 3	100					sandy loam	very sandy and crumbly

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Very dry soils, sandy and consistent brown color.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 13, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-58-wet
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): valley/ depression Local relief (concave, convex, none): concave Slope (%): <1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.40598986 Long: -77.36392301 Datum: NAD-1983
 Soil Map Unit Name: Sandy and clayey land, steep, Sassafras and Caroline materials NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a well established wetland between the railroad/pipeline ROW and the ridge to the east receives runoff from 06-STR-04 which runs through/under wetland. Field Sheet 06-WTL-03 WET.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u>X</u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u>X</u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u>X</u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): 1-2 Water table present? Yes <u>X</u> No <u> </u> Depth (inches): 10 Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): 0-8 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area is between a ridge and railroad. It has groundwater connection and 06-SRT-04 runs through it.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-58-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____			FACW	
4 _____			FACU	
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Murdannia keisak</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Leersia oryzoides</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Persicaria punctata</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4 <u>Persicaria sagittata</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Wet-meadow appears to be alluvial floodplain of small stream in gas pipeline ROW. Photo 0285. *Echinochloa muricata* is important in the wetland, however not located within the sample plot.

SOIL

Sampling Point: **02-WTL-58-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-3	7.5YR	2.5 / 1	95	2.5YR	3 / 6	5		silt loam	dark
3-9	2.5Y	2.5 / 1	95	2.5YR	4 / 6	5		silt loam	
9-15	5Y	2.5 / 1	100					sandy loam	very dark soil

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soil is dark at top but becomes almost black at 9 inches deep and more sandy.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-58-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 8

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-58-wet View of wetland



02-WTL-58-wet View of wetland



02-WTL-58-wet Wetland and access road



02-WTL-58-wet STR-04 along wetland



02-WTL-58-wet View of upland



02-WTL-58-wet Wetland soils

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 13, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-58-upl
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 45%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.40558168 Long: -77.36413168 Datum: NAD-1983
 Soil Map Unit Name: Sandy and clayey land, steep, Sassafras and Caroline materials NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland?		
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>		Yes <u> </u>	No <u>X</u>
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>			
Remarks: Upland is between railroad and 06-WTL-03. Field Sheet 06-WTL-03-UPL.					

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	
<u> </u> Surface Water (A1)	<u> </u> Aquatic Fauna (B13)
<u> </u> High Water Table (A2)	<u> </u> Marl Deposits (B15) (LRR U)
<u> </u> Saturation (A3)	<u> </u> Hydrogen Sulfide Odor (C1)
<u> </u> Water Marks (B1)	<u> </u> Oxidized Rhizospheres on Living Roots (C3)
<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)
<u> </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled Soils (C6)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Thin Muck Surface (C7)
<u> </u> Iron Deposits (B5)	<u> </u> Other (Explain in Remarks)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Surface Soil Cracks (B6)
<u> </u> Water-Stained Leaves (B9)	<u> </u> Sparsely Vegetated Concave Surface (B8)
	<u> </u> Drainage Patterns (B10)
	<u> </u> Moss Trim Lines (B16)
	<u> </u> Dry-Season Water Table (C2)
	<u> </u> Crayfish Burrows (C8)
	<u> </u> Saturation Visible on Aerial Imagery (C9)
	<u> </u> Geomorphic Position (D2)
	<u> </u> Shallow Aquitard (D3)
	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches):	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **On a hillslope - very well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-58-upl**

Tree Stratum (Plot Size: <u>20' x 80'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liriodendron tulipifera</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2 <u>Carya tomentosa</u>	<u>35</u>	<u>Y</u>		Total Number of Dominant Species Across all Strata: <u>6</u> (B)	
3 <u>Quercus alba</u>	<u>20</u>	<u>N</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>16.67%</u> (A/B)	
4 <u>Quercus falcata</u>	<u>15</u>	<u>N</u>	<u>FACU</u>		
5 <u>Robinia pseudoacacia</u>	<u>10</u>	<u>N</u>	<u>UPL</u>		
6 <u>Ulmus americana</u>	<u>3</u>	<u>N</u>	<u>FAC</u>		
7 _____					
8 _____					
<u>133</u> = Total Cover 50% of total cover <u>66.5</u> 20% of total cover: <u>26.6</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>20' x 35'</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Fagus spp.</u>	<u>40</u>	<u>Y</u>		OBL species <u>0</u> x 1 = <u>0</u>	
2 <u>Acer rubrum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	FACW species <u>6</u> x 2 = <u>12</u>	
3 <u>Carya tomentosa</u>	<u>5</u>	<u>N</u>		FAC species <u>31</u> x 3 = <u>93</u>	
4 _____				FACU species <u>97</u> x 4 = <u>388</u>	
5 _____				UPL species <u>30</u> x 5 = <u>150</u>	
6 _____				Column totals <u>164</u> (A) <u>643</u> (B)	
7 _____				Prevalence Index = B/A = <u>3.92</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>70</u> = Total Cover 50% of total cover <u>35</u> 20% of total cover: <u>14</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Dennstaedtia punctilobula</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	Definitions of Four Vegetation Strata:	
2 <u>Polystichum acrostichoides</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 <u>Lyonia ligustrina</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 <u>Lonicera japonica</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 <u>Dioscorea villosa</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
6 <u>Clematis virginiana</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
7 <u>Asimina triloba</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
8 _____					
9 _____					
10 _____					
11 _____					
12 _____			<u>FACU</u>		
<u>39</u> = Total Cover 50% of total cover <u>19.5</u> 20% of total cover: <u>7.8</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Lonicera japonica</u>	<u>1</u>		<u>FACU</u>		
2 <u>Vitis labrusca</u>	<u>1</u>		<u>FAC</u>		
3 _____					
4 _____					
5 _____					
<u>2</u> = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>					

Remarks: (If observed, list morphological adaptations below).
Dry-mesic hardwood forest on a very steep slope.

SOIL

Sampling Point: **02-WTL-58-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-10	10YR 3 / 3	100					sandy loam	Very sandy/crumbly

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Very dry soils.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 13, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-59-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.397222 Long: -77.369418 Datum: NAD-1983

Soil Map Unit Name: Luka fine sandy loam NWI classification: PEM/PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Forested and emergent. Wetland continues northwest beyond the study area. Field Sheet 06WTL04wet01 Team 2.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): 0-8 Water table present? Yes <u>X</u> No <u> </u> Depth (inches): surface Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **28" concrete culvert within wetland. Culvert under railroad flows west into a wetland area bringing hydrology.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-59-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>100</u> x 1 = <u>100</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>110</u> (A) <u>125</u> (B) Prevalence Index = B/A = <u>1.14</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Alnus serrulata</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Murdannia keisak</u>	<u>95</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Leersia oryzoides</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>100</u> = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____				

Dense mat of herbaceous growth in inundated area. Bottom of wetland is emergent with a portion forested. Forested area has red maple and sweetgum dominating woody plants. Along wetland boundary sweet gums fade out and tulip poplar and paw paw begin.

SOIL

Sampling Point: **02-WTL-59-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 3 / 2	100					clay loam	
1-3	10YR 6 / 1	90	7.5YR 5 / 6	10	D		clay loam	
3-12	10YR 4 / 1	95	7.5YR 5 / 8	5	D		clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Organic layer on surface becoming very reduced. Clay is holding water in the wetland.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-59-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-59-wet View of wetland



02-WTL-59-wet View of upland

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-59-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Fagus grandifolia</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2 <u>Pinus virginiana</u>	<u>20</u>	<u>Y</u>	<u>NI</u>	
3 <u>Quercus rubra</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>8</u> (B)
4 <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>37.50%</u> (A/B)
5 _____				Prevalence Index worksheet
6 _____				
7 _____				
8 _____				
<u>85</u> = Total Cover				
50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Fagus grandifolia</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>0</u> x 1 = <u>0</u>
3 <u>Ilex opaca</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	FACW species <u>0</u> x 2 = <u>0</u>
4 <u>Liriodendron tulipifera</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	FAC species <u>21</u> x 3 = <u>63</u>
5 <u>Quercus alba</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	FACU species <u>77</u> x 4 = <u>308</u>
6 <u>Juniperus virginiana</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	UPL species <u>0</u> x 5 = <u>0</u>
7 _____				Column totals <u>98</u> (A) <u>371</u> (B)
8 _____				Prevalence Index = B/A = <u>3.79</u>
<u>27</u> = Total Cover				Hydrophytic Vegetation Indicators:
50% of total cover <u>13.5</u> 20% of total cover: <u>5.4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Smilax Sp.</u>	<u>15</u>	<u>Y</u>		<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation
2 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<input type="checkbox"/> 2 - Dominance Test is >50%
3 _____				<input type="checkbox"/> 3 - Prevalence Index is ≤3.0
4 _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>20</u> = Total Cover				
50% of total cover <u>10</u> 20% of total cover: <u>4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Campsis radicans</u>	<u>1</u>		<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
<u>1</u> = Total Cover				
50% of total cover <u>0.5</u> 20% of total cover: <u>0.2</u>				
Hydrophytic vegetation present? Yes _____ No <u>X</u>				

Typical upland forest.

SOIL

Sampling Point: **02-WTL-59-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2 / 2	100					loam	high organics
3-12	10YR 5 / 2	80	5YR 4 / 6	20			clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are depleted below A horizon. Marginally wet, likely influenced by capillary action at fringe of wetland.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: August 11, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-60-wet
 Investigator(s): L. Postaski & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of ballast Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.386573 Long: -77.384111 Datum: NAD-1983
 Soil Map Unit Name: Kempsville fine sandy loam, 2 to 6 percent slopes NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland is located approximately 130 feet west from the parking lot of the Brooke VRE Station. Saturation is visible from aerial imagery.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Recent Iron Reduction in Tilled Soils (C6) <u>X</u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Thin Muck Surface (C7) <u>X</u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Other (Explain in Remarks) <u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>3-5"</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This wetland is a high functioning wetland with a large stand of *Typha latifolia*.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-60-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Quercus phellos</u>	20	Y	FACW
2 _____			
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

20 = Total Cover
 50% of total cover: 10 20% of total cover: 4

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Alnus glutinosa</u>	5	Y	FACW
2 _____			
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

5 = Total Cover
 50% of total cover: 2.5 20% of total cover: 1

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Typha latifolia</u>	20	Y	OBL
2 <u>Leersia oryzoides</u>	80	Rank error!	OBL
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			
9 _____			
10 _____			
11 _____			
12 _____			

100 = Total Cover
 50% of total cover: 50 20% of total cover: 20

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 _____			
2 _____			
3 _____			
4 _____			
5 _____			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
 Total Number of Dominant Species Across all Strata: _____ (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column totals _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
X 1 -Rapid Test for Hydrophytic Vegetation
 _____ 2 - Dominance Test is >50%
 _____ 3 - Prevalence Index is ≤3.0¹
 _____ Problematic Hydrophytic Vegetation¹ (Explain)

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 02-WTL-60-wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR	3 / 3	100					Sandy loam	
3-12	10YR	6 / 2	100					Sandy loam	Organic matter present.

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No _____

Remarks: **With a value of 4 or more and a chroma of 2 or less, soils are depleted 3-12 inches below surface. A strong hydrogen sulfide odor was observed.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-60-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 7

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-60-wet Wetland vegetation.



02-WTL-60-wet Wetland vegetation.



02-WTL-60-wet Wetland vegetation.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: August 11, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-60-upl
 Investigator(s): L. Postaski & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Slope of ballast Local relief (concave, convex, none): Convex Slope (%): 35%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.386659 Long: -77.384068 Datum: NAD-1983
 Soil Map Unit Name: Sassafras fine sandy loam, 10 to 15 percent slopes, eroded NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is an upland data point.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-60-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>
2 <u>Juniperus virginiana</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

90 = Total Cover
 50% of total cover: 45 20% of total cover: 18

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 _____			
2 _____			
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Rubus argutus</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2 <u>Liriodendron tulipifera</u>	<u>7</u>	<u>Y</u>	<u>FACU</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			
9 _____			
10 _____			
11 _____			
12 _____			

17 = Total Cover
 50% of total cover: 8.5 20% of total cover: 3.4

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Smilax glauca</u>	<u>6</u>	<u>Y</u>	<u>FAC</u>
2 <u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
3 _____			
4 _____			
5 _____			

11 = Total Cover
 50% of total cover: 5.5 20% of total cover: 2.2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 60.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>66</u>	x 3 = <u>198</u>
FACU species <u>52</u>	x 4 = <u>208</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>118</u> (A)	<u>406</u> (B)

Prevalence Index = B/A = 3.44

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Sparse herbaceous layer. Dead/dying ferns observed likely from herbicide.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR	4.0 / 3	100					Silt loam	
3-12	10YR	5 / 4	100					Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 13, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-61-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 3%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.386522 Long: -77.386534 Datum: NAD-1983
 Soil Map Unit Name: Bibb fine sandy loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	hillslope Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	
Remarks: Seep provides hydrology for this wetland. Wetland is located along a hillside east of 06-STR-08. Wetland is drained by 06-STR-09, which carries hydrology to 06-STR-08. Field Sheet 06WTL5wet01 Team 2.		

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): surface Water table present? Yes <u>X</u> No <u> </u> Depth (inches): surface Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **See remarks above**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-61-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)	
2 <u>Platanus occidentalis</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>7</u> (B)	
3 <u>Betula nigra</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>140</u> x 3 = <u>420</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>200</u> (A) <u>540</u> (B) Prevalence Index = B/A = <u>2.70</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
<u>95</u> = Total Cover					
50% of total cover <u>47.5</u> 20% of total cover: <u>19</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>Lindera benzoin</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____	
2 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
3 <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>		
4 <u>Carpinus caroliniana</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
5 _____					
6 _____					
7 _____					
8 _____					
<u>20</u> = Total Cover					
50% of total cover <u>10</u> 20% of total cover: <u>4</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Microstegium vimineum</u>	<u>80</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic vegetation present? Yes <u>X</u> No _____	
2 <u>Lindera benzoin</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>85</u> = Total Cover					
50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____	
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover					
50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Japanese stiltgrass dominates the herbaceous area in this wetland. The stiltgrass extends outside the wetland with less density. American beech helps to delineate the wetland boundary.

SOIL

Sampling Point: **02-WTL-61-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)		%		
0-2	10YR	3 / 7	100					loamy sand
2-10	10YR	7 / 1	100					sandy clay refusal at 10"

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Wet sandy clay soils associated with seep area. Refusal likely due to bedrock at approximately 10 inches.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-61-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-61-wet

Wetland dominated by Japanese
stiltgrass.

SOIL

Sampling Point: **02-WTL-61-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-1	10YR 4 / 2	100					loam	
1-12	7.5YR 5 / 6	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Dry soils lacking hydrologic inputs as seen near seep/wetland.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA- Area 2 City/County: Stafford County Sampling Date: September 1, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-62-wet
 Investigator(s): L. Eggering & L. Postaski Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.387237 Long: -77.388838 Datum: NAD-1983
 Soil Map Unit Name: Aura-Galestown-Sassafras complex, 6 to 15 percent slopes NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>		

Remarks: **This wetland is likely created from seep water. This wetland is approximately 300 feet north of Mt. Hope Church Road.**

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil Cracks (B6)	
<u>X</u> Surface Water (A1)	<u> </u> Aquatic Fauna (B13)	<u> </u> Sparsely Vegetated Concave Surface (B8)	
<u>X</u> High Water Table (A2)	<u> </u> Marl Deposits (B15) (LRR U)	<u>X</u> Drainage Patterns (B10)	
<u>X</u> Saturation (A3)	<u>X</u> Hydrogen Sulfide Odor (C1)	<u> </u> Moss Trim Lines (B16)	
<u> </u> Water Marks (B1)	<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Dry-Season Water Table (C2)	
<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)	<u>X</u> Crayfish Burrows (C8)	
<u> </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled Soils (C6)	<u> </u> Saturation Visible on Aerial Imagery (C9)	
<u> </u> Algal Mat or Crust (B4)	<u> </u> Thin Muck Surface (C7)	<u> </u> Geomorphic Position (D2)	
<u> </u> Iron Deposits (B5)	<u> </u> Other (Explain in Remarks)	<u> </u> Shallow Aquitard (D3)	
<u> </u> Inundation Visible on Aerial Imagery (B7)		<u> </u> FAC-Neutral Test (D5)	
<u> </u> Water-Stained Leaves (B9)		<u> </u> Sphagnum moss (D8) (LRR T, U)	

Field Observations:		Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Surface water present?	Yes <u>X</u> No <u> </u> Depth (inches): <u>0-2:</u>	
Water table present?	Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u>	
Saturation present? (includes capillary fringe)	Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area varies from saturated to inundated throughout the wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-62-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	Murdannia keisak	100	Y OBL
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

100 = Total Cover

50% of total cover: **50** 20% of total cover: **20**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across all Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column totals _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
The herbaceous layer is dominated by Murdannia keisak; no canopy present.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-4	10YR	4.0 / 2	100					Clay loam	
4-12	5Y	5 / 2	90	10YR	6 / 6	10		Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No _____

Remarks: **The soils are reducing.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-62-wet

Project/Site: DC2RVA- Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 7

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-62-wet

New road crossing west of wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: September 1, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-62-upl
 Investigator(s): L. Eggering & L. Postaski Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 20%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.387257 Long: -77.388742 Datum: NAD-1983
 Soil Map Unit Name: Aura-Galestown-Sassafras complex, 6 to 15 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u> Hydric Soil Present? Yes <u> </u> No <u> X </u> Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-62-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Acer rubrum</u>	50	Y	FAC
2 <u>Carpinus caroliniana</u>	10	N	FAC
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

60 = Total Cover
 50% of total cover: **30** 20% of total cover: **12**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Asimina triloba</u>	65	Y	FAC
2 <u>Carpinus caroliniana</u>	20	Y	FAC
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

85 = Total Cover
 50% of total cover: **42.5** 20% of total cover: **17**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Asimina triloba</u>	35	Y	FAC
2 <u>Acer rubrum</u>	15		FAC
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			
9 _____			
10 _____			
11 _____			
12 _____			

50 = Total Cover
 50% of total cover: **25** 20% of total cover: **10**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 _____			
2 _____			
3 _____			
4 _____			
5 _____			

0 = Total Cover
 50% of total cover: **0** 20% of total cover: **0**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across all Strata: **4** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **100.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 195	x 3 = 585
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column totals 195 (A)	585 (B)

Prevalence Index = B/A = **3.00**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
No herbaceous layer. Leaf litter present.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-63-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)	
2 <u>Liquidambar styraciflua</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>4</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>65</u> = Total Cover				Prevalence Index worksheet	
50% of total cover <u>32.5</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>13</u>				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>6</u> x 2 = <u>12</u>	
				FAC species <u>168</u> x 3 = <u>504</u>	
				FACU species <u>0</u> x 4 = <u>0</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>174</u> (A) <u>516</u> (B)	
				Prevalence Index = B/A = <u>2.97</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Liquidambar styraciflua</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Ilex verticillata</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3 _____				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
4 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
<u>51</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>25.5</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>10.2</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Microstegium vimineum</u>	<u>45</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Parathelypteris noveboracensis</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
3 <u>Carex debilis</u>	<u>4</u>	<u>N</u>	<u>FACW</u>		
4 <u>Liquidambar styraciflua</u>	<u>2</u>	<u>N</u>	<u>FAC</u>		
5 <u>Carex intumescens</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
6 <u>Dichanthelium dichotomum</u>	<u>1</u>	<u>N</u>			
7 <u>Ilex verticillata</u>	<u>1</u>	<u>N</u>			
8 <u>Dichanthelium clandestinum</u>	<u>1</u>	<u>N</u>			
9 <u>Liriodendron tulipifera</u>	<u>1</u>	<u>N</u>			
10 <u>Smilax glauca</u>	<u>1</u>	<u>N</u>			
11 <u>Smilax rotundifolia</u>	<u>1</u>	<u>N</u>			
12 <u>Solidago rugosa</u>	<u>1</u>	<u>N</u>			
<u>64</u> = Total Cover					
50% of total cover <u>32</u>					
20% of total cover: <u>12.8</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Vitis labrusca</u>	<u>1</u>		<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
<u>1</u> = Total Cover				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
50% of total cover <u>0.5</u>					
20% of total cover: <u>0.2</u>					

Remarks: (If observed, list morphological adaptations below).
Wet (barely) depression. Nearby ditch has probably channelized original hydrology. There appears to be a reduced-permiability subsurface stratum.

SOIL

Sampling Point: **02-WTL-63-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-2	7.5YR 3 / 2	90					silt loam	crumbly - 10% duff
2-4	7.5YR 4 / 1	90	2.5YR 4 / 6	10			silty clay loam	less crumbly, more gray
4-12	7.5YR 5 / 1	90	2.5YR 4 / 6	10			silty clay loam	more clay

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are hydric with a higher gray color and bright orange mottles below 4 inches.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-63-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-63-wet View of wetland



02-WTL-63-wet View of wetland



02-WTL-63-wet View of wetland



02-WTL-63-wet Wetland soil core



02-WTL-63-wet Wetland soil core

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 13, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-63-upl
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): gentile, low slope Local relief (concave, convex, none): plane Slope (%): 0-3%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.39713317 Long: -77.3696969 Datum: NAD-1983
 Soil Map Unit Name: Luka fine sandy loam, local alluvium, 0 to 4 percent slopes NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This upland point is well drained. Field Sheet 06-WTL-04-UPL1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soils appear to be well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-63-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)	
2 <u>Liriodendron tulipifera</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>7</u> (B)	
3 <u>Liquidambar styraciflua</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>57.14%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>115</u> = Total Cover				Prevalence Index worksheet	
50% of total cover <u>57.5</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>23</u>				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>9</u> x 2 = <u>18</u>	
				FAC species <u>121</u> x 3 = <u>363</u>	
				FACU species <u>56</u> x 4 = <u>224</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>186</u> (A) <u>605</u> (B)	
				Prevalence Index = B/A = <u>3.25</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Quercus alba</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3 <u>Nyssa sylvatica</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	<u> </u> 3 - Prevalence Index is ≤3.0	
4 <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
<u>40</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>20</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>8</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Microstegium vimineum</u>	<u>12</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
3 <u>Lonicera japonica</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>		
4 <u>Athyrium asplenoides</u>	<u>2</u>	<u>N</u>	<u>FAC</u>		
5 <u>Dichanthelium clandestinum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
6 <u>Ilex verticillata</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
7 <u>Rubus spp.</u>	<u>1</u>	<u>N</u>			
8 <u>Carex albicans</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
9 <u>Quercus phellos</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
10 <u>Carex debilis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
11 <u>Agrostis perennans</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
12 <u>(Polystichum acrostichoides)</u>			<u>FACU</u>		
<u>31</u> = Total Cover					
50% of total cover <u>15.5</u>					
20% of total cover: <u>6.2</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>1</u>		<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
<u>1</u> = Total Cover					
50% of total cover <u>0.5</u>					
20% of total cover: <u>0.2</u>					
				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (If observed, list morphological adaptations below).
Mesic hardwood. *Polystichum acrostichoides* is part of the community, but not in the plot.

SOIL

Sampling Point: **02-WTL-63-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3 / 3	100					sandy loam	fine sandy loam
10-20	10YR 4 / 3	100					sandy loam	fine sandy loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-64-wet
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): <2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.38251375 Long: -77.39210757 Datum: NAD-1983
 Soil Map Unit Name: Alluvial land, wet NWI classification: PFO/PSS

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a depression in a forested area west of the railroad. It receives flow from 06-STR-06 and groundwater seepage. Field Sheet 06-WTL-05 wet.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u>X</u> No <u> </u> Depth (inches): 10 Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): 8 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area appears to get groundwater connection and surface overflow from 06-STR-06. There is a restrictive layer of clay underlying the area.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-64-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1 <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)			
2 <u>Liriodendron tulipifera</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>4</u> (B)			
3 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)			
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>139</u> x 3 = <u>417</u> FACU species <u>45</u> x 4 = <u>180</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>204</u> (A) <u>637</u> (B) Prevalence Index = B/A = <u>3.12</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
5 _____							
6 _____							
7 _____							
8 _____							
80 = Total Cover							
50% of total cover <u>40</u>							
20% of total cover: <u>16</u>							
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status				
1 <u>Liriodendron tulipifera</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>				
2 <u>Lindera benzoin</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>				
3 <u>Magnolia virginiana</u>	<u>1</u>	<u>N</u>	<u>FACW</u>				
4 _____							
5 _____							
6 _____							
7 _____							
8 _____							
41 = Total Cover							
50% of total cover <u>20.5</u>							
20% of total cover: <u>8.2</u>							
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status				
1 <u>Microstegium vimineum</u>	<u>75</u>	<u>Y</u>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____			
2 <u>Ilex verticillata</u>	<u>2</u>	<u>N</u>	<u>FACW</u>				
3 <u>Onoclea sensibilis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>				
4 <u>Liquidambar styraciflua</u>	<u>1</u>	<u>N</u>	<u>FAC</u>				
5 <u>Athyrium filix-femina</u>	<u>1</u>	<u>N</u>	<u>FACW</u>				
6 <u>Smilax rotundifolia</u>	<u>1</u>	<u>N</u>					
7 <u>Rubus spp.</u>	<u>1</u>	<u>N</u>					
8 <u>Carex spp.</u>	<u>1</u>	<u>N</u>					
9 _____							
10 _____							
11 _____							
12 _____							
83 = Total Cover							
50% of total cover <u>41.5</u>							
20% of total cover: <u>16.6</u>							
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status				
1 <u>Toxicodendron radicans</u>	<u>3</u>		<u>FAC</u>				
2 _____							
3 _____							
4 _____							
5 _____							
3 = Total Cover							
50% of total cover <u>1.5</u>							
20% of total cover: <u>0.6</u>							

Remarks: (If observed, list morphological adaptations below).
Hardwood seepage swamp transected by small perennial stream. Photos 0305, 0306

SOIL

Sampling Point: **02-WTL-64-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 3 / 2	90	5YR 4 / 6	10			sandy loam	darker near surface
5-8	10YR 4 / 2	95	5YR 4 / 6	5			sandy loam	slightly lighter
8-12	2.5YR 5 / 2	90	5YR 4 / 6	10			sandy loam	gray soil with bright orange

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: clay
 Depth (inches): 10 Hydric soil present? Yes X No _____

Remarks: **This area has darker soils near surface transitioning to a gray colored fine sandy clay loam.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-64-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-64-wet View of wetland



02-WTL-64-wet View of wetland



02-WTL-64-wet View of wetland



02-WTL-64-wet View of upland



02-WTL-64-wet Wetland soil core

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-64-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u>	(A)
2 <u>Liriodendron tulipifera</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>15</u>	(B)
3 <u>Quercus alba</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>53.33%</u>	(A/B)
4 <u>Fagus grandifolia</u>	<u>7</u>	<u>N</u>	<u>FACU</u>		
5 <u>Acer rubrum</u>	<u>7</u>	<u>N</u>	<u>FAC</u>		
6 <u>Betula nigra</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
7 <u>Pinus virginiana</u>	<u>5</u>	<u>N</u>	<u>NI</u>		
8 _____					
	<u>99</u>	= Total Cover			
	50% of total cover <u>49.5</u>	20% of total cover: <u>19.8</u>			
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet	
1 <u>Carpinus caroliniana</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Total % Cover of: <u>1</u>	Multiply by: <u>1</u>
2 <u>Fagus grandifolia</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	OBL species <u>1</u> x 1 = <u>1</u>	
3 <u>Quercus alba</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	FACW species <u>8</u> x 2 = <u>16</u>	
4 <u>Ilex opaca</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	FAC species <u>52</u> x 3 = <u>156</u>	
5 _____				FACU species <u>61</u> x 4 = <u>244</u>	
6 _____				UPL species <u>0</u> x 5 = <u>0</u>	
7 _____				Column totals <u>122</u> (A) <u>417</u> (B)	
8 _____					
	<u>16</u>	= Total Cover		Prevalence Index = B/A = <u>3.42</u>	
	50% of total cover <u>8</u>	20% of total cover: <u>3.2</u>			
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1 <u>Chasmanthium laxum</u>	<u>2</u>	<u>Y</u>	<u>FACW</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Hypericum hypericoides</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3 <u>Mitchella repens</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>	<u> </u> 3 - Prevalence Index is ≤3.0	
4 <u>Vaccinium pallidum</u>	<u>1</u>	<u>Y</u>		<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 <u>Woodwardia areolata</u>	<u>1</u>	<u>Y</u>	<u>OBL</u>		
6 <u>Quercus alba</u>	<u>1</u>	<u>Y</u>	<u>FACU</u>		
7 <u>Smilax rotundifolia</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>		
8 <u>Quercus marilandica</u>	<u>1</u>	<u>Y</u>			
9 <u>Magnolia virginiana</u>	<u>1</u>	<u>Y</u>	<u>FACW</u>		
10 <u>Carpinus caroliniana</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>		
11 <u>Pinus virginiana</u>	<u>1</u>	<u>Y</u>			
12 <u>Danthonia spicata</u>	<u>1</u>	<u>Y</u>	<u>FACU</u>		
	<u>15</u>	= Total Cover		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>7.5</u>	20% of total cover: <u>3</u>		Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Smilax rotundifolia</u>			<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u>	= Total Cover		Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).
Mesic hardwood forest. Potential *Isotria medeoloides* habitat.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-65-wet-1
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave/flat Slope (%): <1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.37947649 Long: -77.39536678 Datum: NAD-1983
 Soil Map Unit Name: Luka fine sandy loam, local alluvium, 0 to 4 percent slopes NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is depressional wetland located north of Eskimo Hill Road, east of railroad. It appears to get surface flow from surrounding hills and groundwater seepage. Field Sheet 06-WTL-07-wet1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u>X</u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u>X</u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u>X</u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2-4</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>10</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area receives surface runoff and groundwater seepage. Water marks on trees up to 18 inches. Much recent sediment deposits from development to east. Ruts from pipeline maintenance crews are filled with water.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-65-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>52</u> x 1 = <u>52</u> FACW species <u>12</u> x 2 = <u>24</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>104</u> (A) <u>196</u> (B) Prevalence Index = B/A = <u>1.88</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>6' x 13'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Murdannia keisak</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2 <u>Microstegium vimineum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Leersia oryzoides</u>	<u>12</u>	<u>N</u>	<u>OBL</u>	
4 <u>Eupatorium perfoliatum</u>	<u>12</u>	<u>N</u>	<u>FACW</u>	
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>52</u> 20% of total cover: <u>20.8</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Wet meadow in railroad side ditch/swale. Other species in wetland, but not in plot include: *Saccharum giganteum*, *Bidens aristosa*, and *Eleocharis* spp.

SOIL

Sampling Point: **02-WTL-65-wet-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹		
0-4	2.5Y	2.5 / 1	95	2.5YR	4 / 6	5		sandy loam	very dark soils with redox
4-12	5Y	2.5 / 1	100					sandy clay loam	very dark fewer redox

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input checked="" type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No _____

Remarks: **Soil is very dark/saturated to surface.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-65-wet-1

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 8

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-65-wet-1 Nonvegetated concave depression.



02-WTL-65-wet-1 Drainage patterns.



02-WTL-65-wet-1 View of wetland habitat.



02-WTL-65-wet-1 View of wetland



02-WTL-65-wet-1 Silt/water mark on tree in wetland.



02-WTL-65-wet-1 Wetland soil core

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-65-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Quercus rubra</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u>	(A)
2 <u>Acer rubrum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>11</u>	(B)
3 <u>Liquidambar styraciflua</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>72.73%</u>	(A/B)
4 <u>Betula nigra</u>	<u>10</u>	<u>N</u>	<u>FACW</u>		
5 <u>Pinus virginiana</u>	<u>3</u>	<u>N</u>			
6					
7					
8					
<u>63</u> = Total Cover				Prevalence Index worksheet	
50% of total cover <u>31.5</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>12.6</u>				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>23</u> x 2 = <u>46</u>	
				FAC species <u>43</u> x 3 = <u>129</u>	
				FACU species <u>24</u> x 4 = <u>96</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>90</u> (A) <u>271</u> (B)	
				Prevalence Index = B/A = <u>3.01</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Vaccinium corymbosum</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3 <u>Betula nigra</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	<u> </u> 3 - Prevalence Index is ≤3.0	
4				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5					
6					
7					
8					
<u>15</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>7.5</u>					
20% of total cover: <u>3</u>				Definitions of Four Vegetation Strata:	
Herb Stratum (Plot Size: <u>6' x 13'</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>Smilax rotundifolia</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 <u>Chasmanthium laxum</u>	<u>3</u>	<u>Y</u>	<u>FACW</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 <u>Quercus alba</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
4 <u>Gaylussacia baccata</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>		
5					
6					
7					
8					
9					
10					
11					
12					
<u>10</u> = Total Cover				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
50% of total cover <u>5</u>					
20% of total cover: <u>2</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2					
3					
4					
5					
<u>5</u> = Total Cover					
50% of total cover <u>2.5</u>					
20% of total cover: <u>1</u>					

SOIL

Sampling Point: **02-WTL-65-wet-2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 3 / 1	95	2.5YR 4 / 6	5			sandy loam	dark soils
5-8	10YR 2 / 1	100					sandy loam	dark no mottles
8-15	2.5Y 2.5 / 1	90	5YR 3 / 4	10			sandy loam	dark with redox features

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input checked="" type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soil is dark with redox near surface and again below 8 inches.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-65-wet-2

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 7

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-65-wet-2 Railroad ditch wetland - PEM portion.



02-WTL-65-wet-2 Habitat in wetland.



02-WTL-65-wet-2 RR ditch through wetland.



02-WTL-65-wet-2 Herbaceous vegetation.



02-WTL-65-wet-2 Water in wetland.



02-WTL-65-wet-2 Soil core in wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-65-upl
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5-10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.37430872 Long: -77.39892167 Datum: NAD-1983
 Soil Map Unit Name: Caroline clay loam, 10 to 18 percent slopes, severely eroded NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Dry hillslope to east of 06-WTL-07. Field Sheet 06-WTL-07-UPL.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): surface	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): surface	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): surface (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **No wetland hydrology present.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-65-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Quercus falcata</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>7</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>42.86%</u> (A/B)
2 <u>Betula nigra</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Pinus virginiana</u>	<u>20</u>	<u>Y</u>	<u>NI</u>	
4 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
5 _____				
6 _____				
7 _____				
8 _____				
<u>95</u> = Total Cover 50% of total cover <u>47.5</u> 20% of total cover: <u>19</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>28</u> x 2 = <u>56</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>70</u> x 4 = <u>280</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>138</u> (A) <u>456</u> (B) Prevalence Index = B/A = <u>3.30</u> Hydrophytic Vegetation Indicators: ___ 1 -Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
<u>53</u> = Total Cover 50% of total cover <u>26.5</u> 20% of total cover: <u>10.6</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Fagus grandifolia</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3 <u>Quercus alba</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4 <u>Nyssa sylvatica</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5 <u>Vaccinium corymbosum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
6 <u>Juniperus virginiana</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
7 _____				
8 _____				
<u>53</u> = Total Cover 50% of total cover <u>26.5</u> 20% of total cover: <u>10.6</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Quercus alba</u>	<u>3</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Nyssa sylvatica</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Sassafras albidum</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
4 <u>Dichanthelium dichotomum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
5 <u>Vaccinium corymbosum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
6 <u>Smilax glauca</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
7 <u>Eupatorium rotundifolium</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes _____ No <u>X</u>				

SOIL

Sampling Point: **02-WTL-65-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 3	100					sandy loam	dry, crumbly

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils are fine sandy upland soils.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-66-wet-1
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): seep Local relief (concave, convex, none): none Slope (%): <2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.37989636 Long: -77.39520449 Datum: NAD-1983
 Soil Map Unit Name: Luka fine sandy loam, local alluvium, 0 to 4 percent slopes NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation X, Soil , or Hydrology significantly disturbed? Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Located around MP67 to the south just north of Eskimo Hill Road. This is a narrow wetland along the railroad ROW along 06-STR-06. It appears to be mostly a seep wetland from the adjacent hillside. Ground is very spongy. Vegetation gets herbicide from railroad. Field Sheet 06-WTL-06-wet.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> FAC-Neutral Test (D5) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): 1-3 Water table present? Yes <u>X</u> No <u> </u> Depth (inches): 1-2 Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area receives groundwater seepage and runoff. May be a restrictive clay layer underlying the area.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-66-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none in wetland</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none in wetland</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>6' x 13'</u>)				
1 <u>Leersia oryzoides</u>	<u>85</u>	<u>Y</u>	<u>OBL</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No _____

Nearly 100' of vegetation herbicided. Wetlands on alluvium in railroad ditch.

SOIL

Sampling Point: **02-WTL-66-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features				Texture	Remarks	
	Color (moist)		%	Color (moist)		%	Type ¹			Loc2
0-3	10YR	2 / 2	90	2.5YR	3 / 6	10			silt loam	darl near surface
3-5	2.5Y	2.5 1	90	2.5YR	3 / 6	10			silt loam	dark soil
5-10	2.5Y	5 1	95	2.5YR	4 / 6	5			silt loam	grayish soil
10-13	5GY		95	5YR	4 / 6	5			sandy loam	Gley1 5/10Y, gleyed color/orang
13-18	5GY		60	7.5YR	6 / 8	40			sandy loam	Gley 1 5/10Y, gleyed but mor ora

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input checked="" type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: clay

Depth (inches): 12

Hydric soil present? Yes X No _____

Remarks: **Soil is very saturated throughout. Gleyed soils underlie area.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-66-wet-1

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-66-wet-1 Railroad ditch wetland.



02-WTL-66-wet-1 Upland soil.



02-WTL-66-wet-1 View of wetland.



02-WTL-66-wet-1 Herbicide affected vegetation.



02-WTL-66-wet-1 Railroad ditch wetland.



02-WTL-66-wet-1 Reduced soils.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-66-upl-1
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 5-45%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.37992947 Long: -77.39527463 Datum: NAD-1983
 Soil Map Unit Name: Luka fine sandy loam, local alluvium, 0 to 4 percent slopes NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is a hillslope above 06-WTL-06, west of railroad. Field Sheet 06-WTL-06-UPL.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): surface	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): surface	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): surface (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No hydrology present.	

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-66-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Pinus virginiana</u>	<u>40</u>	<u>Y</u>	<u>NI</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)	
2 <u>Quercus marilandica</u>	<u>15</u>	<u>Y</u>	<u>NI</u>	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
3 <u>Quercus falcata</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)	
4 <u>Juniperus virginiana</u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
5 _____					
6 _____					
7 _____					
8 _____					
<u>75</u> = Total Cover 50% of total cover <u>37.5</u> 20% of total cover: <u>15</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Quercus marilandica</u>	<u>10</u>	<u>Y</u>	<u>NI</u>	OBL species <u>0</u> x 1 = <u>0</u>	
2 <u>Pinus virginiana</u>	<u>1</u>	<u>N</u>	<u>NI</u>	FACW species <u>0</u> x 2 = <u>0</u>	
3 <u>Quercus falcata</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	FAC species <u>1</u> x 3 = <u>3</u>	
4 _____				FACU species <u>23</u> x 4 = <u>92</u>	
5 _____				UPL species <u>0</u> x 5 = <u>0</u>	
6 _____				Column totals <u>24</u> (A) <u>95</u> (B)	
7 _____					
8 _____					
<u>12</u> = Total Cover 50% of total cover <u>6</u> 20% of total cover: <u>2.4</u>				Prevalence Index = B/A = <u>3.96</u>	
Herb Stratum (Plot Size: <u>5' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Quercus marilandica</u>	<u>3</u>	<u>Y</u>	<u>NI</u>	____ 1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Pinus virginiana</u>	<u>2</u>	<u>Y</u>	<u>NI</u>	____ 2 - Dominance Test is >50%	
3 <u>Dichanthelium sabulorum</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	____ 3 - Prevalence Index is ≤3.0	
4 <u>Liquidambar styraciflua</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	____ Problematic Hydrophytic Vegetation ¹ (Explain)	
5 <u>Agropyrom virginianum</u>	<u>1</u>	<u>N</u>	<u>NI</u>		
6 <u>Juniperus virginiana</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
7 <u>Lespedeza repens</u>	<u>1</u>	<u>N</u>	<u>NI</u>		
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Definitions of Four Vegetation Strata:	
1 <u>none</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
2 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
3 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
4 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>	

SOIL

Sampling Point: **02-WTL-66-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	7.5YR 4 / 3	100					sandy loam	very dry, crumbly
4-12	10YR 4 / 6	100					sandy clay loam	small clay mixture

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Soils are dry and more sandy than 06-WTL-06-wet.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-66-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.376213 Long: -77.397656 Datum: NAD-1983
 Soil Map Unit Name: Caroline clay loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Railroad ditch wetland that eventually flows south to a 12 inch metal culvert. GPS points were taken at the center line of the wetland that is 8 ft wide. Field Sheet 06-WTL6-wet-1 Team 2.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): surface Water table present? Yes <u>X</u> No <u> </u> Depth (inches): surface Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Wetland parallels the railroad tracks and is adjacent to railroad berm. Water hydrology is likely due to ground seeps and typical railroad ditch.**

SOIL

Sampling Point: **02-WTL-66-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 1	90	5YR 5 / 6	10			clay loam	Distinct mottles

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soil is very saturated in the upper 12. Mucky and difficult to stay in core.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-66-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-66-wet Railroad ditch wetland.



02-WTL-66-wet View of railroad ditch.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-66-upl-2
 Investigator(s): D. Mitchel, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.37621 Long: -77.39766 Datum: NAD-1983
 Soil Map Unit Name: Caroline clay loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the upland data point upslope from wetland 06-WTL-06. Field Sheet 06WTL6-Up1 Team 2	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): surface Water table present? Yes <u> </u> No <u>X</u> Depth (inches): surface Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland area is on a hillslope.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-66-upl-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)	
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>25.00%</u> (A/B)	
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet	
50% of total cover <u>0</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>0</u>				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>30</u> x 2 = <u>60</u>	
				FAC species <u>5</u> x 3 = <u>15</u>	
				FACU species <u>10</u> x 4 = <u>40</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>45</u> (A) <u>115</u> (B)	
				Prevalence Index = B/A = <u>2.56</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Morus spp.</u>	<u>10</u>	<u>Y</u>	_____	____ 1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Ailanthus altissima</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	____ 2 - Dominance Test is >50%	
3 _____	_____	_____	_____	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
4 _____	_____	_____	_____	____ Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>7.5</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>3</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Rubus spp.</u>	<u>30</u>	<u>Y</u>	_____		
2 <u>Dichanthelium clandestinum</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>		
3 <u>Lonicera spp.</u>	<u>15</u>	<u>N</u>	_____		
4 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
5 <u>Phytolacca americana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
9 _____	_____	_____	_____		
10 _____	_____	_____	_____		
11 _____	_____	_____	_____		
12 _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover <u>42.5</u>					
20% of total cover: <u>17</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>	_____	_____	_____		
2 _____	_____	_____	_____		
3 _____	_____	_____	_____		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover <u>0</u>					
20% of total cover: <u>0</u>					
				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	

SOIL

Sampling Point: **02-WTL-66-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹		
0-4	10YR	3 / 3	100				sandy loam	
4-12	10YR	4 / 4	100				sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Hillslope next to railroad berm.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford Sampling Date: August 11, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-66-wet-3
 Investigator(s): L. Postaski & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of ballast Local relief (concave, convex, none): Concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.376702 Long: -77.397452 Datum: NAD-1983
 Soil Map Unit Name: Caroline clay loam, 10 to 18 percent slopes, severely eroded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland is a railroad ditch with low functional value. Wetland extends both north and south, beyond the project limits of disturbance boundaries.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u>X</u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-66-wet-3**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Microstegium vimineum	80	Y	FAC
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

80 = Total Cover
 50% of total cover: 40 20% of total cover: 16

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>80</u>	x 3 = <u>240</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>80</u> (A)	<u>240</u> (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Sphagnum moss present throughout the wetland.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 6 / 2	100					Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **With a value of 4 or more and a chroma of 2 or less, soils are depleted at the surface. Soils are saturated.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-66-wet-3

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford Sampling Date: August 11, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-66-upl-3
 Investigator(s): L. Postaski & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Ballast slope Local relief (concave, convex, none): Convex Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.376656 Long: -77.397456 Datum: NAD-1983
 Soil Map Unit Name: Caroline clay loam, 10 to 18 percent slopes, severely eroded NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the upland data point for wetland 6-B-WTL-01.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area is very well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-66-upl-3**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Liriodendron tulipifera</u>	75	Y	FACU
2 <u>Ilex opaca</u>	5	N	FAC
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

80 = Total Cover
 50% of total cover: **40** 20% of total cover: **16**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Liriodendron tulipifera</u>	75	Y	FACU
2 <u>Ilex opaca</u>	5	N	FAC
3 <u>Liquidambar styraciflua</u>	5	N	FAC
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

85 = Total Cover
 50% of total cover: **42.5** 20% of total cover: **17**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 _____			
2 _____			
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			
9 _____			
10 _____			
11 _____			
12 _____			

0 = Total Cover
 50% of total cover: **0** 20% of total cover: **0**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Parthenocissus quinquefolia</u>	10		
2 _____			
3 _____			
4 _____			
5 _____			

10 = Total Cover
 50% of total cover: **5** 20% of total cover: **2**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across all Strata: **2** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **0.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 15	x 3 = 45
FACU species 150	x 4 = 600
UPL species 0	x 5 = 0
Column totals 165 (A)	645 (B)

Prevalence Index = B/A = **3.91**

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No **X**

Remarks: (If observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 6.0 / 4	100					Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-67-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): stream terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.374187 Long: -77.399065 Datum: NAD-1983
 Soil Map Unit Name: Caroline clay loam, 10 to 18 percent slopes severely eroded NWI classification: PFO/PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a small PEM/PFO wetland that receives some hydrology from Wetland 06. Field Sheet 06WTL7wet01 Team 2	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1) <u>X</u>	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): surface Water table present? Yes <u> </u> No <u>X</u> Depth (inches): surface Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): 8 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Small channel nearby. Braided ephemeral stream goes through wetland. Water table lacking due to lack of rain. Hydrology from Wetland 06 contributes to Wetland 07. Wetland continues west beyond project area.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-67-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u>	(A)
2 <u>Betula nigra</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>6</u>	(B)
3 <u>Liquidambar styraciflua</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u>	(A/B)
4 <u>Salix nigra</u>	<u>2</u>	<u>N</u>	<u>OBL</u>		
5 _____					
6 _____					
7 _____					
8 _____					
<u>44</u> = Total Cover 50% of total cover <u>22</u> 20% of total cover: <u>8.8</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Acer rubrum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>2</u> x 1 = <u>2</u>	
2 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	FACW species <u>50</u> x 2 = <u>100</u>	
3 <u>Ilex opaca</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	FAC species <u>54</u> x 3 = <u>162</u>	
4 _____				FACU species <u>0</u> x 4 = <u>0</u>	
5 _____				UPL species <u>0</u> x 5 = <u>0</u>	
6 _____				Column totals <u>106</u> (A) <u>264</u> (B)	
7 _____					
8 _____					
<u>12</u> = Total Cover 50% of total cover <u>6</u> 20% of total cover: <u>2.4</u>				Prevalence Index = B/A = <u>2.49</u>	
Herb Stratum (Plot Size: <u>5' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Microstegium vimineum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
2 <u>Boehmeria cylindrica</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
3 <u>Cinna arundinacea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	<input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0	
4 <u>Impatiens capensis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>50</u> = Total Cover 50% of total cover <u>25</u> 20% of total cover: <u>10</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

SOIL

Sampling Point: **02-WTL-67-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 4 / 2	95	7.5YR 4 / 6	5			silty clay	
2-12	10YR 4 / 1	90	5YR 4 / 6	10			clay	many distinct mottles

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-67-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 8

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-67-wet Aerial overlay



02-WTL-67-wet Habitat in wetland.



02-WTL-67-wet Wetland with CSX in background.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-67-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.374284 Long: -77.39888 Datum: NAD-1983
 Soil Map Unit Name: Caroline clay loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the upland data point near wetland 7. Field Sheet 06WTL7Up01 Team 2	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-67-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	60	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u>	(A)
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>7</u>	(B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>57.14%</u>	(A/B)
4 _____	_____	_____	_____	Prevalence Index worksheet	
5 _____	_____	_____	_____	Total % Cover of:	Multiply by:
6 _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>	
7 _____	_____	_____	_____	FACW species <u>15</u> x 2 = <u>30</u>	
8 _____	_____	_____	_____	FAC species <u>107</u> x 3 = <u>321</u>	
	60 = Total Cover			FACU species <u>5</u> x 4 = <u>20</u>	
	50% of total cover <u>30</u>	20% of total cover: <u>12</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>127</u> (A) <u>371</u> (B)	
1 <u>Liquidambar styraciflua</u>	40	Y	FAC	Prevalence Index = B/A = <u>2.92</u>	
2 <u>Betula nigra</u>	15	Y	FACW	Hydrophytic Vegetation Indicators:	
3 <u>Ilex opaca</u>	5	N	FAC	_____ 1 -Rapid Test for Hydrophytic Vegetation	
4 <u>Prunus serotina</u>	5	N	FACU	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
5 _____	_____	_____	_____	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
6 _____	_____	_____	_____	_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
	65 = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>32.5</u>	20% of total cover: <u>13</u>		Definitions of Four Vegetation Strata:	
Herb Stratum (Plot Size: <u>5' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>Lonicera spp.</u>	4	Y		Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 <u>Rubus spp.</u>	2	Y		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 <u>Smilax spp.</u>	2	Y		Woody vines - All woody vines greater than 3.28 ft in height.	
4 <u>Liquidambar styraciflua</u>	2	Y	FAC		
5 <u>Aster spp.</u>	1	N			
6 _____	_____	_____			
7 _____	_____	_____			
8 _____	_____	_____			
9 _____	_____	_____			
10 _____	_____	_____			
11 _____	_____	_____			
12 _____	_____	_____			
	11 = Total Cover				
	50% of total cover <u>5.5</u>	20% of total cover: <u>2.2</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	0 = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			
				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	

SOIL

Sampling Point: **02-WTL-67-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3 / 2	100					loam	
6-12	10YR 4 / 3	95	7.5YR 4 / 6	5			clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soil in upland has a deeper A Horizon with more organics.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-68-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): valley Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.368991 Long: -77.401076 Datum: NAD-1983
 Soil Map Unit Name: Sassafras fine sandy loam NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation X, Soil X, or Hydrology X significantly disturbed? Yes Are "normal circumstances" present? Yes No X
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Sedimentation issue associated with nearby horse farm. Field Sheet 06WTL8-wet01 Team 2.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <1 inch Water table present? Yes <u>X</u> No <u> </u> Depth (inches): surface Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-68-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>30</u> (A) <u>75</u> (B) Prevalence Index = B/A = <u>2.50</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Polygonum cespitosum</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Digitaria spp.</u>	<u>15</u>	<u>Y</u>		
3 <u>Ranunculus bulbosus</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
4				
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover <u>45</u> 20% of total cover: <u>9</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

SOIL

Sampling Point: **02-WTL-68-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹		
0-12	10YR	4 / 1	98	7.5YR	5 / 6	2		silty sand	many faint mottles

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)				
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **The soil appears to be a sedimentation problem associated with horsefarm upstream.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-68-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 8

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-68-wet View of wetland



02-WTL-68-wet View showing horse farm in background.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-68-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.369078 Long: -77.401042 Datum: NAD-1983
 Soil Map Unit Name: Sassafras fine sandy loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Typical hillside, upland forest. Field Sheet 06WTL8-Up01 Team 2.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland forest**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-68-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Quercus alba</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)
2 <u>Fagus grandifolia</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>4</u>	(B)
3 <u>Nyssa sylvatica</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>25.00%</u>	(A/B)
4 <u>Cornus florida</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
5 _____					
6 _____					
7 _____					
8 _____					
<u>90</u> = Total Cover				Prevalence Index worksheet	
50% of total cover <u>45</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>18</u>				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>0</u> x 2 = <u>0</u>	
				FAC species <u>23</u> x 3 = <u>69</u>	
				FACU species <u>115</u> x 4 = <u>460</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>138</u> (A) <u>529</u> (B)	
				Prevalence Index = B/A = <u>3.83</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Fagus grandifolia</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
2 <u>Nyssa sylvatica</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<u>2</u> - Dominance Test is >50%	
3 <u>Ilex opaca</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	<u>3</u> - Prevalence Index is ≤3.0	
4 <u>Ulmus americana</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
<u>48</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>24</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>9.6</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>0</u> = Total Cover					
50% of total cover <u>0</u>					
20% of total cover: <u>0</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover					
50% of total cover <u>0</u>					
20% of total cover: <u>0</u>					

Typical upland forest for the region.

SOIL

Sampling Point: **02-WTL-68-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-10	10YR 4 / 4	100					loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Soil auger refusal at 10 inches.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-69-wet
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.358674 Long: -77.406360 Datum: NAD-1983
 Soil Map Unit Name: Aura-Galeston-Sassafras complex, 6 to 15 percent slopes NWI classification: PEM (PFO to east)
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation X, Soil , or Hydrology significantly disturbed? Yes Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Small swale/depression in pipeline ROW appears to pond water. Connects to a small stream to the east at edge of forest, 06-STR-08. Field Sheet 06-WTL-09 wet.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Crayfish Burrows (C8)
<u> </u> Iron Deposits (B5)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Geomorphic Position (D2)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> Shallow Aquitard (D3)
<u> </u> Aquatic Fauna (B13)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0-8</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology is weak in the pipeline area, but better in the forest edge where there is more of a groundwater connection and seepage. Most of the forested portion is outside the study area. *Note: Upland point is the same as Upland point for 06-WLT-08-UPL_JBWM.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-69-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Eleocharis tenuis</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Carex crinita</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3 <u>Scirpus spp.</u>	<u>4</u>	<u>N</u>		
4 <u>Onoclea sensibilis</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
5 <u>Persicaria sagittata</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
6 <u>Boehmeria cylindrica</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>37.5</u> 20% of total cover: <u>15</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Seepage, wet meadow in depression on bench in petroleum pipeline ROW.

SOIL

Sampling Point: **02-WTL-69-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-4	10YR 3 / 1	80	5YR 4 / 6	20			sandy clay	dark
4-12	2.5Y 5 / 2	90	2.5YR 4 / 6	10			sandy clay	more clay, lighter

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: clay
 Depth (inches): 4

Hydric soil present? Yes X No

Remarks: **Soils hydric, redox features present.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-69-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-69-wet View of PEM portion of wetland



02-WTL-69-wet View of PFO portion of wetland



02-WTL-69-wet View of PFO portion of wetland



06-WTL-09-wet Inundated portion of wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-69-upl
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 3%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.3573964 Long: -77.40729269 Datum: NAD-1983
 Soil Map Unit Name: Sandy and clayey land, steep, Sassafras and Caroline materials NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland?		
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>		Yes <u> </u>	No <u>X</u>
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>			
Remarks: Upland hillslope above 06-WTL-09-wet outside petroleum pipeline area.					

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): surface	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): surface	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): surface (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **No hydrology present.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-69-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Quercus rubra</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)
2 <u>Liquidambar styraciflua</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>5</u>	(B)
3 <u>Fagus grandifolia</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>20.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>63</u> x 3 = <u>189</u>	
	<u>130</u> = Total Cover			FACU species <u>122</u> x 4 = <u>488</u>	
	50% of total cover <u>65</u>			UPL species <u>0</u> x 5 = <u>0</u>	
	20% of total cover: <u>26</u>			Column totals <u>185</u> (A) <u>677</u> (B)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>3.66</u>	
1 <u>Fagus grandifolia</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
2 <u>Carpinus caroliniana</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
3 <u>Quercus alba</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	<u>2</u> - Dominance Test is >50%	
4 <u>Nyssa sylvatica</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	<u>3</u> - Prevalence Index is ≤3.0	
5 <u>Acer rubrum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
6 <u>Carya tomentosa</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7 _____				Definitions of Four Vegetation Strata:	
8 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
	<u>53</u> = Total Cover			Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
	50% of total cover <u>26.5</u>			Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
	20% of total cover: <u>10.6</u>			Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Hydrophytic vegetation present? Yes <u> </u> No <u>X</u>	
1 <u>Lycopodium digitatum</u>	<u>5</u>	<u>Y</u>			
2 <u>Smilax rotundifolia</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
3 <u>Lonicera japonica</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
4 <u>Chimaphila maculata</u>	<u>1</u>	<u>N</u>			
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>8</u> = Total Cover				
	50% of total cover <u>4</u>				
	20% of total cover: <u>1.6</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>				
	20% of total cover: <u>0</u>				

Low slope mesic hardwoods. Moderate slope, aspect.

SOIL

Sampling Point: **02-WTL-69-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3 / 3	95					sandy loam	crumbly - 5% organic matter
6-12	2.5Y 5 / 3	95	2.5Y 4 / 4	5			sandy loam	more sand, some orange

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-70-wet
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression in floodplain Local relief (concave, convex, none): concave Slope (%): <1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.35731119 Long: -77.40759201 Datum: NAD-1983
 Soil Map Unit Name: Wehadkee very fine sandy loam, 0 to 2 percent slopes NWI classification: PEM/PSS
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is depressional wetland in the floodplain of Potomac Creek. It is separated from the creek by a high stream terrace and a hill to the north extends west of bridge and east side of project area. Field Sheet 06-WTL-08-wet.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u>X</u> Drainage Patterns (B10)
<u>X</u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u>X</u> Sediment Deposits (B2)	<u>X</u> Dry-Season Water Table (C2)
<u>X</u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u>X</u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>4-6</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area receives overflow flooding from Potomac Creek, and runoff from adjacent hills.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-70-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Fraxinus pennsylvanica</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u>	(A)
2 <u>Acer rubrum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>7</u>	(B)
3 <u>Acer negundo</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u>	(A/B)
4 <u>Platanus occidentalis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
5 <u>Betula nigra</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
6 _____					
7 _____					
8 _____					
<u>50</u> = Total Cover 50% of total cover <u>25</u> 20% of total cover: <u>10</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Alnus serrulata</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	OBL species <u>86</u> x 1 = <u>86</u>	
2 <u>Lindera benzoin</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	FACW species <u>45</u> x 2 = <u>90</u>	
3 <u>Sambucus nigra</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	FAC species <u>31</u> x 3 = <u>93</u>	
4 _____				FACU species <u>2</u> x 4 = <u>8</u>	
5 _____				UPL species <u>0</u> x 5 = <u>0</u>	
6 _____				Column totals <u>164</u> (A) <u>277</u> (B)	
7 _____				Prevalence Index = B/A = <u>1.69</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>17</u> = Total Cover 50% of total cover <u>8.5</u> 20% of total cover: <u>3.4</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Murdannia keisak</u>	<u>65</u>	<u>Y</u>	<u>OBL</u>	Definitions of Four Vegetation Strata:	
2 <u>Leersia oryzoides</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 <u>Microstegium vimineum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 <u>Euthamia graminifolia</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 <u>Cinna arundinacea</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
6 <u>Mikania scandens</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
7 <u>Peltandra virginica</u>	<u>1</u>	<u>N</u>	<u>OBL</u>		
8 <u>Eupatorium perfoliatum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
9 _____					
10 _____					
11 _____					
12 _____					
<u>95</u> = Total Cover 50% of total cover <u>47.5</u> 20% of total cover: <u>19</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Lonicera japonica</u>	<u>2</u>		<u>FACU</u>		
2 _____					
3 _____					
4 _____					
5 _____					
<u>2</u> = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>					
Bottomland hardwoods / wet meadow mosaic. Chasmanthium spp. and Ranunculus alatus are important in wetland, however are not located in plot.					

SOIL

Sampling Point: **02-WTL-70-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3 / 1	95	2.5YR 3 / 6	5			silt loam	dark upper yo gray below
3-6	5Y 5 / 1	100					sandy loam	sandy grayish
6-12	5Y 5 / 1	100					sandy loam	finer sand, darker

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils remain saturated for long periods. Silty loam surface, sandy middle, finer sand below.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-70-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 9

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-70-wet View of wetland channel.



02-WTL-70-wet Side channel wetland.



02-WTL-70-wet View of wetland with CSX bridge.



02-WTL-70-wet View of RR ballast and gas ROW.



02-WTL-70-wet View of adjacent upland.



02-WTL-70-wet Wetland soil core.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-70-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Quercus rubra</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2 <u>Liquidambar styraciflua</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
3 <u>Fagus grandifolia</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>20.00%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>130</u> = Total Cover 50% of total cover <u>65</u> 20% of total cover: <u>26</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Fagus grandifolia</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	OBL species <u>0</u> x 1 = <u>0</u>	
2 <u>Carpinus caroliniana</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	FACW species <u>0</u> x 2 = <u>0</u>	
3 <u>Quercus alba</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	FAC species <u>63</u> x 3 = <u>189</u>	
4 <u>Nyssa sylvatica</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	FACU species <u>122</u> x 4 = <u>488</u>	
5 <u>Acer rubrum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	UPL species <u>0</u> x 5 = <u>0</u>	
6 <u>Carya tomentosa</u>				Column totals <u>185</u> (A) <u>677</u> (B)	
7 _____				Prevalence Index = B/A = <u>3.66</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>53</u> = Total Cover 50% of total cover <u>26.5</u> 20% of total cover: <u>10.6</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Lycopodium digitatum</u>	<u>5</u>	<u>Y</u>		Definitions of Four Vegetation Strata:	
2 <u>Smilax rotundifolia</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 <u>Lonicera japonica</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 <u>Chimaphila maculata</u>	<u>1</u>	<u>N</u>		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>8</u> = Total Cover 50% of total cover <u>4</u> 20% of total cover: <u>1.6</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Low slope mesic hardwoods. Moderate slope, aspect.

SOIL

Sampling Point: **02-WTL-70-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3 / 3	95					sandy loam	crumbly - 5% organic matter
6-12	2.5Y 5 / 3	95	2.5Y 4 / 4	5			sandy loam	more sand, some orange

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-71-wet
 Investigator(s): L. Eggering Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): side channel Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.356872 Long: -77.407742 Datum: NAD-1983
 Soil Map Unit Name: Wehadkee very fine sandy loam NWI classification: PEM/PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a side channel wetland parallel to Potomac Creek. It receives frequent overflow flooding from Potomac Creek, but ponds water during normal flow times. Field Sheet 06WTL03PC.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): 2 Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The side channel wetland receive fairly frequent overflow flooding from Potomac Creek. It would be regulated as a wetland instead of a stream because of the hydric soils and dense vegetation growing in the channel. Also, at normal creek levels, there is no flow through the side channel, just ponded water.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-71-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>90</u> x 1 = <u>90</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>120</u> (B) Prevalence Index = B/A = <u>1.20</u>
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Murdannia keisak</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <u>1</u> -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50% <input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0 _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 <u>Polygonum persicaria</u>	<u>5</u>	<u>N</u>	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
11 _____	_____	_____	_____	
12 _____	_____	_____	_____	
<u>95</u> = Total Cover 50% of total cover <u>47.5</u> 20% of total cover: <u>19</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <u>X</u> No _____				

Remarks: (If observed, list morphological adaptations below).
The box elder is only at the fringe of the wetland. It is primarily an emergent herbaceous wetland with some riparian trees along the margin. Sample point was near gas pipeline ROW, thus the woody species were mostly absent.

SOIL

Sampling Point: **02-WTL-71-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-12	10YR 4 / 1	80	10YR 5 / 8	20			silty sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **The side channel soils are clearly reducing. There is a lot more silt in the side channel when compared to the high stream terrace.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-71-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	3	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	Scores are lower due to disturbance from adjacent roadway and CSX operations.
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 11

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-71-wet Wetland (left) and upland (right) soils.



02-WTL-71-wet Dead vegetation from utility maintenance.



02-WTL-71-wet Powell Creek side channel.



02-WTL-71-wet Powell Creek side channel.



02-WTL-71-wet Crayfish borrow.



02-WTL-71-wet Inundated portion of side channel.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-71-upl
 Investigator(s): L. Eggering Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.356925 Long: -77.407704 Datum: NAD-1983
 Soil Map Unit Name: Wehadkee very fine sandy loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Potomac Creek terrace. This is a sample point in the high stream terrace between Potomac Creek and a side channel wetland. It lacks wetland hydrology and hydric soils. Field Sheet 06-WTL-03-PC upland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area receives infrequent overflow flooding from Potomac Creek.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-71-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Betula nigra</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u>	(A)
2 <u>Platanus occidentalis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>4</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>20</u> x 2 = <u>40</u>	
8 _____				FAC species <u>0</u> x 3 = <u>0</u>	
	<u>20</u> = Total Cover			FACU species <u>80</u> x 4 = <u>320</u>	
	50% of total cover <u>10</u>			UPL species <u>0</u> x 5 = <u>0</u>	
	20% of total cover: <u>4</u>			Column totals <u>100</u> (A) <u>360</u> (B)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>3.60</u>	
1 <u>none</u>				Hydrophytic Vegetation Indicators:	
2 _____				<u>1</u> -Rapid Test for Hydrophytic Vegetation	
3 _____				<u>2</u> - Dominance Test is >50%	
4 _____				<u>3</u> - Prevalence Index is ≤3.0	
5 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
6 _____					
7 _____					
8 _____					
	<u>0</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>0</u>			Definitions of Four Vegetation Strata:	
	20% of total cover: <u>0</u>			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
1 <u>Verbesina occidentalis</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2 <u>Polygonum persicaria</u>	<u>20</u>	<u>Y</u>		Woody vines - All woody vines greater than 3.28 ft in height.	
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>100</u> = Total Cover				
	50% of total cover <u>50</u>				
	20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>				
	20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Survey plot is a the edge of gas ROW which eliminates most woody species, and it is on a high well drained stream terrace in the Potomac Creek floodplain.

SOIL

Sampling Point: **02-WTL-71-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	2.5Y 5 / 6	85	2.5Y 6 / 8	15			sandy loam	some silt present

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This soil is very well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-72-wet
 Investigator(s): L. Eggering, PWS Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): valley seep Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.34821 Long: -77.426113 Datum: NAD-1983
 Soil Map Unit Name: Aura-Galestown-Sassafras complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

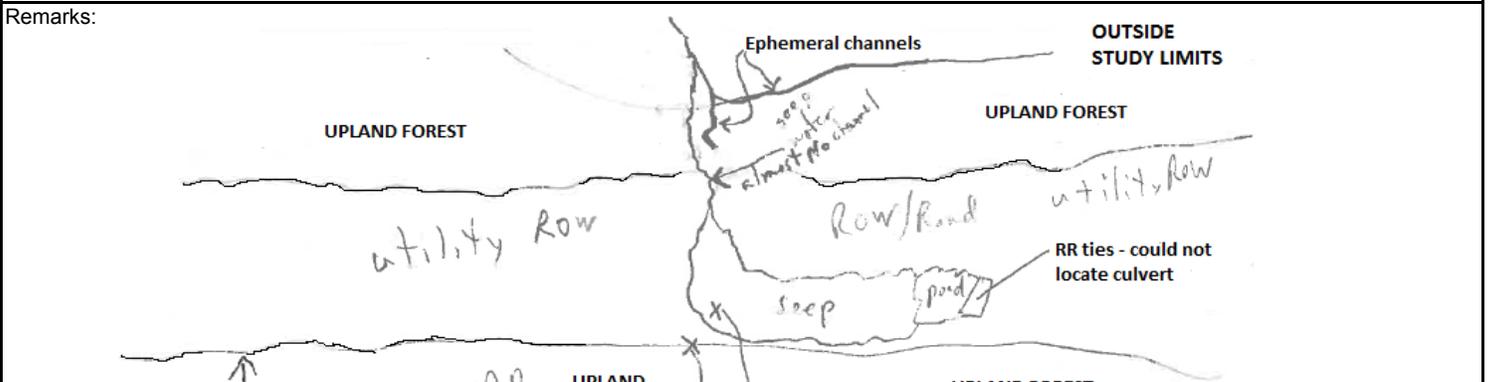
Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a seep wetland coming out of the toe of slope from the CSX line. There is a small ponded area below railroad ties but no culvert was visible. Field Sheet 06-WTL-04-Leeland/06WTL04seep.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): up to 6 inches Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:



VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-72-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Murdannia keisak</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Leersia oryzoides</u>	<u>20</u>	<u>N</u>	<u>OBL</u>	
3 <u>unknown denuded herbaceous</u>	<u>2</u>	<u>N</u>		
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>51</u> 20% of total cover: <u>20.4</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
The seep is in the gas line ROW so no woody vegetation is present.

SOIL

Sampling Point: **02-WTL-72-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 5 / 3	80	10YR 6 / 8	20			sandy loam	
6-12	10YR 5 / 1	80	10YR 6 / 8	20			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are reducing in the seep. Disturbance in the gas ROW likely mixes the soils. Deeper soils are very gray.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-72-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-72-wet Wetland soil.



02-WTL-72-wet Disturbed portion in gas ROW.



02-WTL-72-wet Buried culvert in upper end of wetland.



02-WTL-72-wet Herbaceous seep.



02-WTL-72-wet Seep facing northeast toward gas ROW.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-72-upl
 Investigator(s): L. Eggering, PWS Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): slope of RR fill Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.348278 Long: -77.426141 Datum: NAD-1983
 Soil Map Unit Name: Aura-Galestown-Sassafras complex, 15 to 30 percent slopes (probably fill from RF NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is the upland point at the top of CSX RR slope. Field Sheet 06-WTL-04-Leeland upland.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches):	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area at the toe of slope is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-72-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Liriodendron tulipifera</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2 <u>Quercus stellata</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	Total Number of Dominant Species Across all Strata: <u>5</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>40.00%</u> (A/B)
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				Prevalence Index worksheet
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____
1 <u>Liriodendron tulipifera</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	OBL species <u>0</u> x 1 = <u>0</u>
2 _____				FACW species <u>0</u> x 2 = <u>0</u>
3 _____				FAC species <u>15</u> x 3 = <u>45</u>
4 _____				FACU species <u>75</u> x 4 = <u>300</u>
5 _____				UPL species <u>20</u> x 5 = <u>100</u>
6 _____				Column totals <u>110</u> (A) <u>445</u> (B)
7 _____				
8 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				Prevalence Index = B/A = <u>4.05</u>
Herb Stratum (Plot Size: <u>5' radius</u>)				Hydrophytic Vegetation Indicators:
1 <u>Toxicodendron radicans</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation
2 _____				<input type="checkbox"/> 2 - Dominance Test is >50%
3 _____				<input type="checkbox"/> 3 - Prevalence Index is ≤3.0
4 _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Definitions of Four Vegetation Strata:
1 <u>Campsis radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
2 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
3 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
4 _____				Woody vines - All woody vines greater than 3.28 ft in height.
5 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>

Remarks: (If observed, list morphological adaptations below).
This well drained area is on the slope of the CSX railroad.

SOIL

Sampling Point: **02-WTL-72-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 3 / 2	100					sandy loam	
3-12	10YR 5 / 4	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This is likely old fill material from CSX railroad construction.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-73-wet
 Investigator(s): L. Eggering Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.346832 Long: -77.43951 Datum: NAD-1983
 Soil Map Unit Name: Luka fine sandy loam, local alluvium NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a linear railroad ditch wetland south of Leland Station. Herbicides have damaged the vegetation in places. Field Sheet 06-WTL-05 VRE wetland.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u>X</u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): 3 Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: The area remains saturated and inundated in pools along the stretch of railroad. Leland Station railroad wetland.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-73-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Total Cover: <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Liquidambar styraciflua</u>	<u>4</u>		<u>FAC</u>	
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>2</u> 20% of total cover: <u>0.8</u>				
Total Cover: <u>4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Murdannia keisak</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Carex intumescens</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Eleocharis palustris</u>	<u>20</u>	<u>N</u>	<u>OBL</u>	
4 <u>Rhynchospora capitellata</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5 <u>Polygonum persicaria</u>	<u>4</u>	<u>N</u>		
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>52</u> 20% of total cover: <u>20.8</u>				
Total Cover: <u>104</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Total Cover: <u>0</u>				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across all Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column totals _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Herbicides have altered plant composition and killed portions of the wetland.

SOIL

Sampling Point: **02-WTL-73-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Matrix			Redox Features				Texture	Remarks	
	Color (moist)		%	Color (moist)		%	Type ¹			Loc ²
0-12	10YR	5 / 1	90	10YR	6 / 8	10			sandy clay loam	bright mottles

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **A lot of iron in the soil cores and orange stained vegetation.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-73-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-73-wet Inundated portion of wetland.



02-WTL-73-wet Area just south of platform.



02-WTL-73-wet Herbicide damage in wetland.



02-WTL-73-wet Wetland south of Leland Station.



02-WTL-73-wet Railroad ditch wetland near Leland Station.



02-WTL-73-wet Wetland soils.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-73-upl
 Investigator(s): L. Eggering, PWS Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.346818 Long: -77.439454 Datum: NAD-1983
 Soil Map Unit Name: Luka fine sandy loam, local alluvium NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Upland data point adjacent Leeland VRE station wetland. Well drained, does not have hydric soil, vegetation, or hydrology to be considered a wetland. Field Sheet 06-WTL-05-VRE upland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Sample point on bank, east side of wetland, between wetland and pipeline ROW. Well drained area. Does not have hydric soils, hydrophytic vegetation, or hydrology to be considered a wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-73-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Pinus virginiana</u>	65	Y	NI	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2 <u>Liquidambar styraciflua</u>	10	N	FAC	Total Number of Dominant Species Across all Strata: <u>6</u> (B)	
3 <u>Quercus falcata</u>	10	N	FACU	Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
85 = Total Cover 50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Sassafras albidum</u>	20	Y	FACU	OBL species <u>0</u> x 1 = <u>0</u>	
2 <u>Liquidambar styraciflua</u>	10	Y	FAC	FACW species <u>0</u> x 2 = <u>0</u>	
3 <u>Quercus falcata</u>	10	Y	FACU	FAC species <u>25</u> x 3 = <u>75</u>	
4 <u>Ficus microcarpa</u>	5	N	UPL	FACU species <u>45</u> x 4 = <u>180</u>	
5 _____				UPL species <u>5</u> x 5 = <u>25</u>	
6 _____				Column totals <u>75</u> (A) <u>280</u> (B)	
7 _____				Prevalence Index = B/A = <u>3.73</u>	
8 _____				Hydrophytic Vegetation Indicators:	
45 = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Liquidambar styraciflua</u>	5	Y	FAC	Definitions of Four Vegetation Strata:	
2 <u>Sassafras albidum</u>	5	Y	FACU	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
10 = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Herbaceous stratum nearly absent due to overstory trees.

SOIL

Sampling Point: **02-WTL-73-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-10	10YR 5 / 4	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This soil is well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-74-wet
 Investigator(s): L. Eggering Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): depression/pond Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.346551 Long: -77.439694 Datum: NAD-1983
 Soil Map Unit Name: Luka fine sandy loam, local alluvium NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a depressional wetland near the Leland VRE Station parking lot. It ponds water for a long duration and has wetland plants and soils. Culvert draining to the Leland Station railroad ditch wetland appears to be collapsed which inhibits drainage. Field Sheet 06WTL06-VRE Leeland Station Pond.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>1</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This small depression ponds water for a long duration. It dries during severe droughts.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-74-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)	
2 <u>Liquidambar styraciflua</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>7</u> (B)	
3 <u>Fagus grandifolia</u>	<u>4</u>	<u>N</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>18</u> x 1 = <u>18</u> FACW species <u>45</u> x 2 = <u>90</u> FAC species <u>85</u> x 3 = <u>255</u> FACU species <u>4</u> x 4 = <u>16</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>152</u> (A) <u>379</u> (B) Prevalence Index = B/A = <u>2.49</u>	
5 _____					
6 _____					
7 _____					
8 _____					
<u>74</u> = Total Cover 50% of total cover <u>37</u> 20% of total cover: <u>14.8</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>Clethra alnifolia</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>		
2 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>45</u> = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Carex comosa</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
2 <u>Scirpus cyperinus</u>	<u>8</u>	<u>Y</u>	<u>OBL</u>		
3 <u>Juncus marginatus</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>23</u> = Total Cover 50% of total cover <u>11.5</u> 20% of total cover: <u>4.6</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax glauca</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>					

Remarks: (If observed, list morphological adaptations below).
A portion of the wetland plot is unundated and has no vegetation. Beech is just on the wetland margin.

SOIL

Sampling Point: **02-WTL-74-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)		%	Type ¹		
0-12	10YR 5 / 1	90	10YR 6 8	10			sandy clay loam	organic matter present

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks: **Area appears to have been ponded for a long duration and the soils are reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-74-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	Depositional area has a lot of disturbance from CSX operations and the adjacent Leland Station operation.
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-74-wet View of wetland, Leland Station parking lot in the background.



02-WTL-74-wet Picture of upland (left) and wetland (right) soils.



02-WTL-74-wet Inundated portion of wetland.



02-WTL-74-wet Wetland vegetation on margins.



02-WTL-74-wet Sweet pepperbush.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 14, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-74-upl
 Investigator(s): L. Eggering Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 3%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.346622 Long: -77.439858 Datum: NAD-1983
 Soil Map Unit Name: Luka fine sandy loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u> Hydric Soil Present? Yes <u> </u> No <u> X </u> Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Remarks: This is the upland sample point just south of the Leland Station depression. Field Sheet 06WTL06-VRE upland, Leeland Station Pond.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): Water table present? Yes <u> </u> No <u> X </u> Depth (inches): Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-74-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Fagus grandifolia</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2 <u>Liquidambar styraciflua</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>5</u> (B)
3 <u>Acer rubrum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u> (A/B)
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>90</u> x 4 = <u>360</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>190</u> (A) <u>620</u> (B) Prevalence Index = B/A = <u>3.26</u>
5 _____				
6 _____				
7 _____				
8 _____				
<u>120</u> = Total Cover 50% of total cover <u>60</u> 20% of total cover: <u>24</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Fagus grandifolia</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>20</u> = Total Cover 50% of total cover <u>10</u> 20% of total cover: <u>4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Clethra alnifolia</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>40</u> = Total Cover 50% of total cover <u>20</u> 20% of total cover: <u>8</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Smilax rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Hydrophytic vegetation present? Yes <u>X</u> No _____				

Remarks: (If observed, list morphological adaptations below).
Herbaceous layer primarily shaded out by shrubs and trees.

SOIL

Sampling Point: **02-WTL-74-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 5 / 2	100					loam	lots of organic matter
3-12	10YR 5 / 4	95	10YR 5 / 8	5			loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Soil core was just upslope (south) of wetland.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Leeland/Stafford Sampling Date: July 20, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-75-wet
 Investigator(s): L. Postaski & R. Mangum & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of ballast Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.346944 Long: -77.439665 Datum: NAD-1983
 Soil Map Unit Name: Iuka fine sandy loam, local alluvium, 0 to 4 percent slopes NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland is located in concave area by steep rise; associated with possible buried culvert at RR tracks.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u>X</u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u>X</u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area was very dry during the survey.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-75-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2 _____			
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

_____ = Total Cover
 50% of total cover: 5 20% of total cover: 2

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2 _____			
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

_____ = Total Cover
 50% of total cover: 5 20% of total cover: 2

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Juncus effusus</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>
2 <u>Carex frankii</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>
3 <u>Leersia oryzoides</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			
9 _____			
10 _____			
11 _____			
12 _____			

_____ = Total Cover
 50% of total cover: 7.5 20% of total cover: 3

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 _____			
2 _____			
3 _____			
4 _____			
5 _____			

_____ = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>15</u>	x 1 = <u>15</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>35</u> (A)	<u>75</u> (B)

Prevalence Index = B/A = 2.14

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation
 X 2 - Dominance Test is >50%
 X 3 - Prevalence Index is ≤3.0¹
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).
Sparse vegetation present throughout the wetland. It is possible that herbicides were sprayed along ballast to maintain the railway.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-4	10YR	4.0 / 2	100					Clay loam	1" duff layer present
4-12	10YR	5 / 1	75	10YR	5 / 8	25		Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **With a value of 4 or more and a chroma of 2 or less, soils are depleted 4-12 inches below surface.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-75-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-75-wet

Wetland vegetation along ballast.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Leeland/Stafford Sampling Date: July 20, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-75-upl
 Investigator(s): L. Postaski & R. Mangum & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.347057 Long: -77.439648 Datum: NAD-1983
 Soil Map Unit Name: Iuka fine sandy loam, local alluvium, 0 to 4 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u> Hydric Soil Present? Yes <u> </u> No <u> X </u> Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Remarks: Steep rise from wetland data point.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-75-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Liquidambar styraciflua</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>
2 <u>Sassafras albidum</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

70 = Total Cover
 50% of total cover: 35 20% of total cover: 14

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
2 <u>Sassafras albidum</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

10 = Total Cover
 50% of total cover: 5 20% of total cover: 2

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 _____			
2 _____			
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			
9 _____			
10 _____			
11 _____			
12 _____			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 _____			
2 _____			
3 _____			
4 _____			
5 _____			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>45</u>	x 3 = <u>135</u>
FACU species <u>35</u>	x 4 = <u>140</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>80</u> (A)	<u>275</u> (B)

Prevalence Index = B/A = 3.44

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤ 3.0 ¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).
Sparse herbaceous layer.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 4.0 / 4	100					Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: Gravel
 Depth (inches): 0 (surface)

Hydric soil present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-76-wet
 Investigator(s): L. Eggering Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.346034 Long: -77.443677 Datum: NAD-1983
 Soil Map Unit Name: Kempsville fine sandy loam, gravelly substratum NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a jurisdictional railroad ditch wetland. It has hydric soils, hydrology, and wetland plants. It is poor quality due to disturbance from the CSX railroad and herbicide applications. Field Sheet 06WTL07-NWVRE wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): 3 Water table present? Yes <u>X</u> No <u> </u> Depth (inches): surface Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

The iron deposits in the wetland here stained everything orange. It is not completely clear where the water is originating, but it is likely that it is seep water from the adjacent hillsides. The railroad is in a deep cut through a ridge with seep water on both sides of the ballast.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-76-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Juncus marginatus</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 <u>Eleocharis palustris</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Juncus effusus</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
4 <u>Juncus acuminatus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5 <u>Scirpus cyperinus</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
6 <u>Andropogon virginicus</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>47</u> 20% of total cover: <u>18.8</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____

Remarks: (If observed, list morphological adaptations below).
Vegetation is mostly dead following herbicide application. Virginia bluestem on margins of ditch. Spike rush was all dead.

SOIL

Sampling Point: **02-WTL-76-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	2.5Y 4 / 3	95	10YR 4 / 6	5			sandy loam	few mottles
4-12	2.5Y 5 / 1	95	10YR 5 / 8	5			sandy loam	few mottles

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are clearly reduced, and there is a significant amount of iron in the soils and surface water.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-76-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-76-wet Upland (bottom) and wetland (top) soils.



02-WTL-76-wet Railroad ditch wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-76-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 40%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.346034 Long: -77.443668 Datum: NAD-1983

Soil Map Unit Name: Kempsville fine sandy loam, gravelly substratum NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is the adjacent upland to the CSX railroad wetland 06 WTL 07 (NWWRE). It is on a steep hillslope, is well drained, and has upland vegetation. Field Sheet 06-WTL-07-NWWRE upland.			

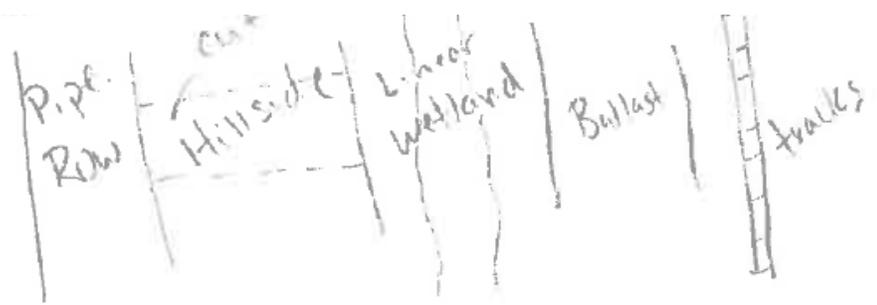
HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches):	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Area is well drained, loamy soil, upland vegetation. Sample point in cut on hillside. Hill slopes down to wetland along railroad.



VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-76-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Pinus virginiana</u>	<u>30</u>	<u>Y</u>	<u>NI</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u>	(A)
2 <u>Quercus falcata</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>9</u>	(B)
3 <u>Quercus rubra</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>22.22%</u>	(A/B)
4 <u>Liriodendron tulipifera</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		
5 _____					
6 _____					
7 _____					
8 _____					
<u>90</u> = Total Cover				Prevalence Index worksheet	
50% of total cover <u>45</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>18</u>				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>15</u> x 2 = <u>30</u>	
				FAC species <u>0</u> x 3 = <u>0</u>	
				FACU species <u>140</u> x 4 = <u>560</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>155</u> (A) <u>590</u> (B)	
				Prevalence Index = B/A = <u>3.81</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Sassafras albidum</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
2 <u>Liriodendron tulipifera</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<u>2</u> - Dominance Test is >50%	
3 _____				<u>3</u> - Prevalence Index is ≤3.0	
4 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
<u>60</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>30</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>12</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Sassafras albidum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		
2 <u>Andropogon glomeratus</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>		
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>25</u> = Total Cover				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
50% of total cover <u>12.5</u>					
20% of total cover: <u>5</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Rubus hispidus</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>		
2 _____					
3 _____					
4 _____					
5 _____					
<u>10</u> = Total Cover					
50% of total cover <u>5</u>					
20% of total cover: <u>2</u>					

Remarks: (If observed, list morphological adaptations below).
Some vegetation impacted by railroad ROW (herbicides). Minimal herbaceous stratum.

SOIL

Sampling Point: **02-WTL-76-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 6	100					loam	faint mottling

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Sample point in deep cut on hillslope. Sloping down to wetland along railroad.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-77-wet
 Investigator(s): L. Postaski & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of ballast/RR ditch Local relief (concave, convex, none): Concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.342525 Long: -77.447789 Datum: NAD-1983
 Soil Map Unit Name: Kempsville fine sandy loam, gravelly substratum, 10 to 18 percent slopes, eroded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Ephemeral channel with wetland fringe in railroad ditch, foamy water observed at datapoint; associated with culvert.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u>X</u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u>X</u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0-2"</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-77-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status	
1	Juncus effusus	20	Y	OBL
2	Carex frankii	20	Y	OBL
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

40 = Total Cover
 50% of total cover: 20 20% of total cover: 8

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
 Total Number of Dominant Species Across all Strata: _____ (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column totals _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 Problematic Hydrophytic Vegetation¹ (Explain) _____
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No _____

Remarks: (If observed, list morphological adaptations below).
No canopy present. Sphagnum moss present.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹		
0-2	10YR	3 / 4	100					Clay loam
2-4	10YR	3 / 3	100					Clay loam
4-12	10YR	6 / 3	90	10YR	5 / 6	10		Clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input checked="" type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
 Hydric soil present? Yes No

Remarks: Soils are saturated with surface water present in low-lying areas of the wetland. Soils are dark clay loam, lacking redoximorphic features in the upper 4 inches. Redoximorphic features may be masked by the dark chroma/value of the soil, or have not developed due to unstable/disturbed soils along the ephemeral channel.

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-77-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-77-wet

Wetland vegetation.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: 2-WTL-77-upl

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Quercus alba</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>
2 <u>Liquidambar styraciflua</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

90 = Total Cover
 50% of total cover: 45 20% of total cover: 18

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Quercus alba</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
2 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

40 = Total Cover
 50% of total cover: 20 20% of total cover: 8

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 _____			
2 _____			
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			
9 _____			
10 _____			
11 _____			
12 _____			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Smilax glauca</u>			
2 _____			
3 _____			
4 _____			
5 _____			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>60</u>	x 3 = <u>180</u>
FACU species <u>70</u>	x 4 = <u>280</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>130</u> (A)	<u>460</u> (B)

Prevalence Index = B/A = 3.54

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).
Sparse herbaceous layer. Dead/dying ferns observed likely from herbicide.

SOIL

Sampling Point: 2-WTL-77-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 5.0 / 4	100					Silt loam	Gravel inclusion

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-78-wet
 Investigator(s): L. Eggering Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): RR ditch and swale Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.343059 Long: -77.447721 Datum: NAD-1983

Soil Map Unit Name: Kempsville fine sandy loam, gravelly substratum NWI classification: PFO/PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a CSX railroad ditch and adjacent swale wetland south of Primmer House Road. There is an ephemeral channel that enters the north end and bisects the wetland. In portions of the wetland the channel is almost imperceptible. The south end of wetland becomes well drained and soils change. Field Sheet 06WTL08-PHRd wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): 6 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

This area receives runoff from an ephemeral channel, and it remains saturated for a long duration during the growing season. Portions of the railroad ditch pond water at times.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-78-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>80</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)	
2 <u>Betula nigra</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>6</u> (B)	
3 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>60</u> x 1 = <u>60</u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u>97</u> x 3 = <u>291</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>237</u> (A) <u>511</u> (B) Prevalence Index = B/A = <u>2.16</u>	
5 _____					
6 _____					
7 _____					
8 _____					
<u>130</u> = Total Cover 50% of total cover <u>65</u> 20% of total cover: <u>26</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Lindera benzoin</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>		
2 <u>Ilex opaca</u>	<u>2</u>	<u>N</u>	<u>FAC</u>		
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>12</u> = Total Cover 50% of total cover <u>6</u> 20% of total cover: <u>2.4</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Murdannia keisak</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
2 <u>Impatiens capensis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>		
3 <u>Juncus marginatus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
4 <u>Onoclea sensibilis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
5 <u>Osmunda regalis</u>	<u>2</u>	<u>N</u>			
6 _____				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>92</u> = Total Cover 50% of total cover <u>46</u> 20% of total cover: <u>18.4</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
2 _____					
3 _____					
4 _____					
5 _____					
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>					

Remarks: (If observed, list morphological adaptations below).
The wetter portions of the sample plot were dominated by *Murdannia keisak*. The area closer to the ballast was treated with herbicides and was mainly dead.

SOIL

Sampling Point: **02-WTL-78-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹		
0-3	10YR 3 / 1		100					silt loam
3-12	10YR 5 / 1		90	10YR 5 / 6	10			sandy loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **The soils in this area were reduced, but there is active erosional features in the west side of the wetland.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-78-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-78-wet Primmer House Road wetland.



02-WTL-78-wet Upland sample point.



02-WTL-78-wet Pipes for drainage in wetland.



02-WTL-78-wet Inundated channel in wetland.



02-WTL-78-wet swale/channel through wetland.



02-WTL-78-wet Erosion in channel.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-78-upl
 Investigator(s): L. Eggering Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): ridge Local relief (concave, convex, none): none Slope (%): 45%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.343102 Long: -77.447653 Datum: NAD-1983
 Soil Map Unit Name: Kempsville fine sandy loam, gravelly substratum NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is an upland point west of wetland (06 WTL 08 PHRD) south of Primmer House Road. It has no wetland hydrology or soils. Field Sheet 06WTL08-PHRd upland.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

This sample point is on the adjacent ridge above the wetland. It is well drained and slopes sharply toward the wetland.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-78-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Fagus grandifolia</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
2 <u>Ilex opaca</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
4 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
5 _____				
6 _____				
7 _____				
8 _____				
<u>85</u> = Total Cover 50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>2</u> x 2 = <u>4</u> FAC species <u>96</u> x 3 = <u>288</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>128</u> (A) <u>412</u> (B) Prevalence Index = B/A = <u>3.22</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Ilex opaca</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>40</u> = Total Cover 50% of total cover <u>20</u> 20% of total cover: <u>8</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Onoclea sensibilis</u>	<u>2</u>		<u>FACW</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>2</u> = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Smilax rotundifolia</u>	<u>1</u>		<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
<u>1</u> = Total Cover 50% of total cover <u>0.5</u> 20% of total cover: <u>0.2</u>				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).
Herb layer on adjacent ridge is almost absent.

SOIL

Sampling Point: **02-WTL-78-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 5 / 6	100					loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **The soils are well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: August 10, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-79-wet
 Investigator(s): L. Postaski & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of ballast Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.339191 Long: -77.449134 Datum: NAD-1983
 Soil Map Unit Name: Bladen loam, 0 to 2 percent slopes NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: There is a braided ephemeral channel bed within the wetland. The wetland is located approximatey 50 feet west of the railway.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u>X</u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u>X</u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2"</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-79-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Liquidambar styraciflua</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>
2 <u>Quercus phellos</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

100 = Total Cover
 50% of total cover: 50 20% of total cover: 20

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 _____			
2 _____			
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Microstegium vimineum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>
2 _____			
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			
9 _____			
10 _____			
11 _____			
12 _____			

25 = Total Cover
 50% of total cover: 12.5 20% of total cover: 5

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Smilax glauca</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2 _____			
3 _____			
4 _____			
5 _____			

10 = Total Cover
 50% of total cover: 5 20% of total cover: 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>40</u>	x 2 = <u>80</u>
FAC species <u>95</u>	x 3 = <u>285</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>135</u> (A)	<u>365</u> (B)

Prevalence Index = B/A = 2.70

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Diversity is lacking in the herb stratum.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 4 / 3	90	10YR 5 / 6	10			Silt loam	
5-12	10YR 5 / 2	80	2.5YR 4 / 8	20			Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **With a value of 4 or more and a chroma of 2 or less, soils are depleted 5-12 inches below surface.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-79-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: August 10, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-79-upl
 Investigator(s): L. Postaski & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Ballast slope Local relief (concave, convex, none): Convex Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.339232 Long: -77.448977 Datum: NAD-1983
 Soil Map Unit Name: _____ NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Steep rise to railroad tracks is heavily vegetated.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-79-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	10	Y	
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

10 = Total Cover
 50% of total cover: 5 20% of total cover: 2

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>0</u>	(A) <u>0</u> (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).
Area along ballast had no vegetation.

SOIL

Sampling Point: 02-WTL-79-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-2	10YR	3.0 / 2	100				Silt loam	Gravel restrictive layer

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: Gravel/rock from ballast
 Depth (inches): 2"+

Hydric soil present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-80-wet-1
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.33809975 Long: -77.44869615 Datum: NAD-1983
 Soil Map Unit Name: Bladen loam, 0 to 2 percent slopes NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Railroad ditch and herbaceous wetland. Field Sheet 06-WTL-10 wet1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Iron Deposits (B5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>4</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-80-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Murdannia keisak</u>	<u>99</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Leersia oryzoides</u>	<u>3</u>	<u>N</u>	<u>OBL</u>	
3 <u>Cyperus strigosus</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
4 <u>Panicum dichotomiflorum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
5 <u>Persicaria longiseta</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
6 <u>Carex spp.</u>	<u>1</u>	<u>N</u>		
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>53</u> 20% of total cover: <u>21.2</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
				Hydrophytic vegetation present? Yes <u>X</u> No _____

Mesic, low slope forest.

SOIL

Sampling Point: **02-WTL-80-wet-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	5Y 2.5 / 1	90	2.5YR 3 / 6	10			sandy loam	
3-8	5Y 3 / 2	60	5YR 4 / 6	40			sandy loam	
8-12	2.5Y 3 / 1	95	10YR 5 / 6	5			silty sandy clay	
12-15	2.5Y 5 / 1	90	7.5YR 5 / 8	10			silty sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: clay
 Depth (inches): 15

Hydric soil present? Yes X No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-80-wet-1

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 7

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-80-wet-1 PEM adjacent tracks.



02-WTL-80-wet-1 View of PEM portion of wetland.



02-WTL-80-wet-1 View of PEM portion of wetland.



02-WTL-80-wet-1 View of PEM portion of wetland.



02-WTL-80-wet-1 Wetland soil core.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-80-wet-2
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression in floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.338058 Long: -77.448601 Datum: NAD-1983
 Soil Map Unit Name: Bladen loam, 0 to 2 percent slopes NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a well established wetland. Very large and diverse with PEM, PFO, and PSS components in floodplain of 06-STR-10. Field Sheet 06-WTL-10-wet2 PFO.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u>X</u> Drainage Patterns (B10)
<u>X</u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u>X</u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Aquatic Fauna (B13)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Shallow Aquitard (D3)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> FAC-Neutral Test (D5)
<u>X</u> Presence of Reduced Iron (C4)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	
<u> </u> Algal Mat or Crust (B4)	
<u> </u> Iron Deposits (B5)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u>X</u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2-4</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2</u> Saturation present? (includes capillary fringe) Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology is very good. Groundwater connection, high water table, and overflow floodway. Beaver activity on trees indicates long-term flooding conditions. Soil is very poorly drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-80-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>11</u> (A)	
2 <u>Quercus phellos</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>12</u> (B)	
3 <u>Quercus alba</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>91.67%</u> (A/B)	
4 <u>Nyssa sylvatica</u>	<u>10</u>	<u>N</u>	<u>FAC</u>		
5 <u>Fagus grandifolia</u>	<u>5</u>		<u>FACU</u>		
6 _____					
7 _____					
8 _____					
<u>105</u> = Total Cover				Prevalence Index worksheet	
50% of total cover <u>52.5</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>21</u>				OBL species <u>15</u> x 1 = <u>15</u>	
				FACW species <u>34</u> x 2 = <u>68</u>	
				FAC species <u>82</u> x 3 = <u>246</u>	
				FACU species <u>18</u> x 4 = <u>72</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>149</u> (A) <u>401</u> (B)	
				Prevalence Index = B/A = <u>2.69</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Nyssa sylvatica</u>	<u>7</u>	<u>Y</u>	<u>FAC</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Acer rubrum</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3 <u>Ilex opaca</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
4 <u>Juniperus virginiana</u>	<u>3</u>	<u>Y</u>	<u>FACU</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
<u>16</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>8</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>3.2</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Murdannia keisak</u>	<u>6</u>	<u>Y</u>	<u>OBL</u>		
2 <u>Persicaria sagittata</u>	<u>6</u>	<u>Y</u>	<u>OBL</u>		
3 <u>Leersia oryzoides</u>	<u>3</u>	<u>Y</u>	<u>OBL</u>		
4 <u>Smilax rotundifolia</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>		
5 <u>Bidens discoidea</u>	<u>3</u>	<u>Y</u>	<u>FACW</u>		
6 <u>Microstegium vimineum</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>		
7 <u>Persicaria longiseta</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
8 <u>Smilax glauca</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
9 <u>Cinna arundinacea</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
10 <u>Vaccinium pallidum</u>	<u>1</u>	<u>N</u>			
11 _____					
12 _____					
<u>28</u> = Total Cover					
50% of total cover <u>14</u>					
20% of total cover: <u>5.6</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>1</u>		<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
<u>1</u> = Total Cover				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
50% of total cover <u>0.5</u>					
20% of total cover: <u>0.2</u>					

Hardwood swamp (depression swamp or small stream alluvial swamp).

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-80-wet-2

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 11

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-80-wet-2 View of PFO portion of wetland.



02-WTL-80-wet-2 View of PFO portion of wetland.



02-WTL-80-wet-2 View of PFO portion of wetland.



02-WTL-80-wet-2 Stressed trees.



02-WTL-80-wet-2 Top of wetland soil core.



02-WTL-80-wet-2 Bottom of wetland soil core.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-80-wet-3
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.336244 Long: -77.448478 Datum: NAD-1983
 Soil Map Unit Name: Bladen loam, 0 to 2 percent slopes NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation X X, or Hydrology significantly disturbed? Yes Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is the third wetland data point for this large wetland. Field Sheet 06-WTL-10 WET3.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Water Marks (B1)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Sediment Deposits (B2)	<u> </u> Oxidized Rhizospheres on Living Roots (C3)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Presence of Reduced Iron (C4)
<u> </u> Iron Deposits (B5)	<u> </u> Recent Iron Reduction in Tilled Soils (C6)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Thin Muck Surface (C7)
<u> </u> Water-Stained Leaves (B9)	<u> </u> Other (Explain in Remarks)
	<u>X</u> Geomorphic Position (D2)
	<u> </u> Shallow Aquitard (D3)
	<u>X</u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>8</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>8</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Surface water present in adjacent wheel ruts.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-80-wet-3**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 _____ Problematic Hydrophytic Vegetation ¹ (Explain)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Cephalanthus occidentalis</u>	<u>12</u>	<u>Y</u>	<u>OBL</u>		Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
_____ = Total Cover 50% of total cover <u>6</u> 20% of total cover: <u>2.4</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Sparganium americanum</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>		Hydrophytic vegetation present? Yes <u>X</u> No _____
2 <u>Nuphar advena</u>	<u>5</u>	<u>N</u>	<u>OBL</u>		
3 <u>Murdannia keisak</u>	<u>1</u>	<u>N</u>	<u>OBL</u>		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
_____ = Total Cover 50% of total cover <u>33</u> 20% of total cover: <u>13.2</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					
Emergent marsh.					

SOIL

Sampling Point: **02-WTL-80-wet-3**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-6	10YR 2 / 2	100					silt loam	
6-9	2.5Y 3 / 1	100					sandy loam	
9-15	5Y 5 / 1	100					silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: clay
 Depth (inches): 9-12"

Hydric soil present? Yes X No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-80-wet-3

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 8

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



02-WTL-80-wet-3 Wet wheel ruts and nearby PFO.



02-WTL-80-wet-3 View of PEM.



02-WTL-80-wet-3 View of culvert adjacent PEM.



02-WTL-80-wet-3 Shrubs in PEM.



02-WTL-80-wet-3 View of PEM.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-80-upl
 Investigator(s): J. Budnik, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope/terrace Local relief (concave, convex, none): concave Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.33591218 Long: -77.4485153 Datum: NAD-1983
 Soil Map Unit Name: Bladen loam, 0 to 2 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is an upland slope. May be the former stream terrace for 06-STR-10. All gravel, sand, and rock at 5 inches deep. Field Sheet 06-WTL-10-UPL.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): surface Water table present? Yes <u> </u> No <u>X</u> Depth (inches): surface Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Gravel, sand, and rock subsurface causes area to drain to 06-WTL-10 to the east.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-80-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)	
2 <u>Quercus phellos</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>11</u> (B)	
3 <u>Liriodendron tulipifera</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>45.45%</u> (A/B)	
4 <u>Acer rubrum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>		
5 <u>Fagus grandifolia</u>	<u>6</u>	<u>N</u>	<u>FACU</u>		
6 <u>Nyssa sylvatica</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
7 <u>Carya glabra</u>	<u>2</u>	<u>N</u>	<u>FACU</u>		
8 <u>Quercus alba</u>	<u>2</u>	<u>N</u>	<u>FACU</u>		
	<u>115</u> = Total Cover				
	50% of total cover <u>57.5</u>	20% of total cover: <u>23</u>			
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet	
1 <u>Fagus grandifolia</u>	<u>6</u>	<u>Y</u>	<u>FACU</u>	Total % Cover of: <u>1</u> x Multiply by: <u>1</u> = <u>1</u>	
2 <u>Quercus alba</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	OBL species <u>1</u> x 1 = <u>1</u>	
3 <u>Acer rubrum</u>	<u>4</u>	<u>Y</u>	<u>FAC</u>	FACW species <u>18</u> x 2 = <u>36</u>	
4 <u>Nyssa sylvatica</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	FAC species <u>88</u> x 3 = <u>264</u>	
5 <u>Carya tomentosa</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	FACU species <u>43</u> x 4 = <u>172</u>	
6 <u>Ilex verticillata</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	UPL species <u>0</u> x 5 = <u>0</u>	
7 <u>Euonymus americanus</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	Column totals <u>150</u> (A) <u>473</u> (B)	
8 <u>Magnolia virginiana</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
	<u>23</u> = Total Cover			Prevalence Index = B/A = <u>3.15</u>	
	50% of total cover <u>11.5</u>	20% of total cover: <u>4.6</u>			
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1 <u>Lonicera japonica</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
2 <u>Smilax rotundifolia</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>	<u>2</u> - Dominance Test is >50%	
3 <u>Euonymus americanus</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>	<u>3</u> - Prevalence Index is ≤3.0	
4 <u>Cornus florida</u>	<u>1</u>	<u>Y</u>	<u>FACU</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 <u>Quercus velutina</u>	<u>1</u>	<u>Y</u>	<u>OBL</u>		
6 <u>Lysimachia quadriflora</u>	<u>1</u>	<u>Y</u>	<u>FACU</u>		
7 <u>Parthenocissus quinquefolia</u>	<u>1</u>	<u>Y</u>	<u>FACU</u>		
8					
9					
10					
11					
12					
	<u>11</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>5.5</u>	20% of total cover: <u>2.2</u>		Definitions of Four Vegetation Strata:	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Toxicodendron radicans</u>	<u>2</u>		<u>FAC</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
2 <u>Smilax rotundifolia</u>	<u>2</u>		<u>FAC</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
3				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
4				Woody vines - All woody vines greater than 3.28 ft in height.	
5					
	<u>4</u> = Total Cover				
	50% of total cover <u>2</u>	20% of total cover: <u>0.8</u>			
				Hydrophytic vegetation present? Yes <u> </u> No <u> X </u>	

Potential *Isotria* habitat: For = Large trees, Fagus, Enon. Americanna, Aplectrum. Not a dense herb layer and low shrub layer. Against = *Lonicera japonica* (not dense throughout)

SOIL

Sampling Point: **02-WTL-80-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3								dark organic layer, no consistenc
3-12								sand, gravel, rock > 4" diameter

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X** _____

Remarks: **Soil is a sandy organic mix at surface followed by gravel, sand, rock below. Appears to be an old stream bed or terrace for 06-STR-10 in the distant past. Near total soil auger refusal.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford Sampling Date: August 10, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-81-wet
 Investigator(s): L. Postaski & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of ballast Local relief (concave, convex, none): Concave Slope (%): 5%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.338329 Long: -77.449037 Datum: NAD-1983
 Soil Map Unit Name: Bladen loam, 0 to 2 percent slopes NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Linear channel with no inundation leading to Claiborne Run, boards out into wetland at edge of railroad and old access road.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u>X</u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u>X</u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-81-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Quercus phellos</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>
2 _____			
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

5 = Total Cover
 50% of total cover: 2.5 20% of total cover: 1

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 _____			
2 _____			
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Microstegium vimineum</u>	<u>90</u>	<u>Y</u>	<u>FAC</u>
2 <u>Scirpus cyperinus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			
9 _____			
10 _____			
11 _____			
12 _____			

95 = Total Cover
 50% of total cover: 47.5 20% of total cover: 19

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 _____			
2 _____			
3 _____			
4 _____			
5 _____			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species <u>90</u>	x 3 = <u>270</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>100</u> (A)	<u>285</u> (B)

Prevalence Index = B/A = 2.85

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Sphagnum moss present throughout the wetland.

SOIL

Sampling Point: 02-WTL-81-wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR	3 / 3	100					Clay loam	
3-5	10YR	4 / 1	80	10YR	5 / 8	20	C	M	Clay loam
5-12	10YR	5 / 2	80	10YR	5 / 8	20	C	M	Clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks: **With a value of 4 or more and a chroma of 2 or less, soils are depleted at 3-12 inches.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 02-WTL-81-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: August 10, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 02-WTL-81-upl
 Investigator(s): L. Postaski & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Ballast slope Local relief (concave, convex, none): Convex Slope (%): 40%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.338205 Long: -77.448983 Datum: NAD-1983
 Soil Map Unit Name: Bladen loam, 0 to 2 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the upland data point for wetland 6-B-WTL-01.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area is very well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **02-WTL-81-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Liquidambar styraciflua	5	Y	FAC
2			
3			
4			
5			
6			
7			
8			

5 = Total Cover
 50% of total cover: 2.5 20% of total cover: 1

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Microstegium vimineum	20	Y	FAC
2 Ambrosia artemisiifolia	10	Y	FACU
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

30 = Total Cover
 50% of total cover: 15 20% of total cover: 6

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Smilax glauca	10	Y	FAC
2 Parthenocissus quinquefolia	10	Y	FACU
3			
4			
5			

20 = Total Cover
 50% of total cover: 10 20% of total cover: 4

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 60.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>35</u>	x 3 = <u>105</u>
FACU species <u>20</u>	x 4 = <u>80</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>55</u> (A)	<u>185</u> (B)

Prevalence Index = B/A = 3.36

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-01-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Cephalanthus occidentalis</u>	<u>2</u>	<u>No</u>	<u>OBL</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Murdannia keisak</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Leersia oryzoides</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Boehmeria cylindrica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4 <u>Osmunda regalis</u>	<u>2</u>	<u>N</u>	<u>NI</u>	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
11 _____	_____	_____	_____	
12 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>48.5</u> 20% of total cover: <u>19.4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across all Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column totals _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No _____

Royal fern only on the wetland margin near the ballast, toe of slope. Area is in gas line ROW and maintained, there are no trees or large shrubs.

SOIL

Sampling Point: **03-WTL-01-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 4 / 2		95	10YR 5 6	5			sandy loam	
4-12	10YR 5 / 1		95	7.5YR 6 8	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No _____

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-01-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-01-wet

Wetland vegetation.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-01-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Railroad ballast Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.330093 Long: -77.4491934 Datum: NAD-1983
 Soil Map Unit Name: Alluvial land, sandy and gravelly NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Upland pont near the toe of the ballast. Field Sheet 06WTL11-Up01 Team 2.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Railroad ballast area.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-01-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Quercus phellos</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2 <u>Betula nigra</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Liriodendron tulipifera</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>6</u> (B)
4 <u>Pinus virginiana</u>	<u>4</u>	<u>N</u>		Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
5 <u>Liquidambar styraciflua</u>	<u>2</u>		<u>FAC</u>	
6 _____				Prevalence Index worksheet
7 _____				
8 _____				Total % Cover of: _____ Multiply by: _____
	<u>86</u> = Total Cover			OBL species <u>0</u> x 1 = <u>0</u>
50% of total cover <u>43</u>		20% of total cover: <u>17.2</u>		FACW species <u>77</u> x 2 = <u>154</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				FAC species <u>12</u> x 3 = <u>36</u>
1 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	FACU species <u>15</u> x 4 = <u>60</u>
2 _____				UPL species <u>0</u> x 5 = <u>0</u>
3 _____				Column totals <u>104</u> (A) <u>250</u> (B)
4 _____				
5 _____				Prevalence Index = B/A = <u>2.40</u>
6 _____				Hydrophytic Vegetation Indicators:
7 _____				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation
8 _____				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
	<u>10</u> = Total Cover			<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0
50% of total cover <u>5</u>		20% of total cover: <u>2</u>		<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Osmunda regalis</u>	<u>15</u>	<u>Y</u>		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2 <u>Quercus phellos</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	Definitions of Four Vegetation Strata:
3 <u>Laportea canadensis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
4 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
5 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
6 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
7 _____				Woody vines - All woody vines greater than 3.28 ft in height.
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
	<u>22</u> = Total Cover			
50% of total cover <u>11</u>		20% of total cover: <u>4.4</u>		
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Lonicera japonica</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____
2 _____				
3 _____				
4 _____				
5 _____				
	<u>5</u> = Total Cover			
50% of total cover <u>2.5</u>		20% of total cover: <u>1</u>		

Royal fern near the wetland margin.

SOIL

Sampling Point: **03-WTL-01-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 1	100					sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Upland soil sample from ballast soils (likely fill material)**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: August 10, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-02-wet
 Investigator(s): L. Postaski & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 10%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.329665 Long: -77.449782 Datum: NAD-1983
 Soil Map Unit Name: Alluvial land, sandy and gravelly NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	

Remarks: **Sparingly vegetated area. Tire ruts are present. This wetland is located north of Harrell Road, approximately 80 feet west of the railway.**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	<u> </u> Surface Soil Cracks (B6)
<u> </u> Surface Water (A1)	<u>X</u> Sparingly Vegetated Concave Surface (B8)
<u> </u> High Water Table (A2)	<u> </u> Drainage Patterns (B10)
<u> </u> Saturation (A3)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u>X</u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> FAC-Neutral Test (D5)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations:	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u>	
Saturation present? (includes capillary fringe) Yes <u>X</u> No <u> </u> Depth (inches): <u> </u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-02-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	60	Y	FAC
2			
3			
4			
5			
6			
7			
8			

60 = Total Cover
 50% of total cover: **30** 20% of total cover: **12**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: **0** 20% of total cover: **0**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Leersia oryzoides	50	Y	OBL
2 Matteuccia struthiopteris	5	N	FACW
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

55 = Total Cover
 50% of total cover: **27.5** 20% of total cover: **11**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Smilax glauca	15	Y	FAC
2			
3			
4			
5			

15 = Total Cover
 50% of total cover: **7.5** 20% of total cover: **3**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across all Strata: **3** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **100.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 50	x 1 = 50
FACW species 5	x 2 = 10
FAC species 75	x 3 = 225
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column totals 130 (A)	285 (B)

Prevalence Index = B/A = **2.19**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 03-WTL-02-wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR	3 / 2	100					Clay loam	Duff layer present
2-12	10YR	5 / 2	90	10YR	5 / 6	10		Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **With a value of 4 or more and a chroma of 2 or less, soils are depleted 2-12 inches below surface.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-02-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-02-wet Sparsely vegetated understory.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford County Sampling Date: August 10, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-02-upl
 Investigator(s): L. Postaski & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.329742 Long: -77.449876 Datum: NAD-1983
 Soil Map Unit Name: Alluvial land, sandy and gravelly NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Sparsely vegetated area. Potentially an old road bed. Tire ruts present.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is very well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-02-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	90	Y	FAC
2			
3			
4			
5			
6			
7			
8			

90 = Total Cover
 50% of total cover: **45** 20% of total cover: **18**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: **0** 20% of total cover: **0**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	10	Y	
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

10 = Total Cover
 50% of total cover: **5** 20% of total cover: **2**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Smilax glauca			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: **0** 20% of total cover: **0**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across all Strata: **2** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **50.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 90	x 3 = 270
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column totals 90 (A)	270 (B)

Prevalence Index = B/A = **3.00**

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Herbaceous layer absent.

SOIL

Sampling Point: 03-WTL-02-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	5.0 / 4	100				Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-03-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): stream terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.329177 Long: -77.449259 Datum: NAD-1983
 Soil Map Unit Name: Alluvial land, sandy and gravelly NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Very small herbaceous wetland north of Harrel Road. Field Sheet 06WTL10-wet01 Team 2.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): >2 inches Water table present? Yes <u>X</u> No <u> </u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Wetland is primarily saturated, but does have small pockets of inundation.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-03-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Murdannia keisak</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Sagittaria latifolia</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
3 <u>Leersia oryzoides</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Dense stand of *Murdannia keisak*.

SOIL

Sampling Point: **03-WTL-03-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 1	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Although the soil value and chroma are indicative of redox dark surface, there is an apparent lack of redoximorphic features. It is likely that the dark organic matter within the soil is masking some or all of the concentrations that may be present.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-03-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-03-wet Soil core.



03-WTL-03-wet Very small herbaceous wetland.



03-WTL-03-wet Herbaceous wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-03-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.329205 Long: -77.44927 Datum: NAD-1983
 Soil Map Unit Name: Alluvial land, sandy and gravelly NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the upland point for wetland 10. Field Sheet 06WTL10-Up01 Team 2.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-03-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Liriodendron tulipifera</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>7</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>42.86%</u> (A/B)	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>15</u> = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>35</u> (A) <u>120</u> (B) Prevalence Index = B/A = <u>3.43</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>none</u>					Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Acer rubrum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		Hydrophytic vegetation present? Yes _____ No <u>X</u>
2 <u>Lonicera spp.</u>	<u>5</u>	<u>Y</u>			
3 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
4 <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>		
5 <u>Dichanthelium clandestinum</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>		
<u>Aster spp.</u>	<u>5</u>	<u>Y</u>			
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>30</u> = Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 4	100					sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford County Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-04-wet
 Investigator(s): L. Postaski & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of ballast/road Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.325741 Long: -77.450569 Datum: NAD-1983
 Soil Map Unit Name: Alluvial land, sandy and gravelly NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Depression inside treeline at edge of gravel road along ballast.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u>X</u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2"</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-04-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	30	Y	FAC
2 Betula nigra	20	Y	FACW
3			
4			
5			
6			
7			
8			

50% of total cover: **25** 20% of total cover: **10**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

50% of total cover: **0** 20% of total cover: **0**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Leersia oryzoides	60	Y	OBL
2 Sagittaria latifolia	10	N	OBL
3 Dichanthelium clandestinum	10	N	FACW
4			
5			
6			
7			
8			
9			
10			
11			
12			

50% of total cover: **40** 20% of total cover: **16**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Smilax glauca	10	Y	FAC
2			
3			
4			
5			

50% of total cover: **5** 20% of total cover: **2**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across all Strata: **4** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **100.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 70	x 1 = 70
FACW species 30	x 2 = 60
FAC species 40	x 3 = 120
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column totals 140 (A)	250 (B)

Prevalence Index = B/A = **1.79**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Herbicides were sprayed along ballast; sparse vegetation present.

SOIL

Sampling Point: 03-WTL-04-wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR	4.0 / 1	90	10YR 5 / 8	10	C	M	Sandy loam	
3-12	10YR	5 / 2	100					Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **With a value of 4 or more and a chroma of 2 or less, soils are depleted.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-04-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-04-wet

Wetland vegetation.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford County Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-04-upl
 Investigator(s): L. Postaski & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Steep ballast slope Local relief (concave, convex, none): Convex Slope (%): 60%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.325694 Long: -77.450492 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam, 0 to 25 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Steep rise to railroad tracks is heavily vegetated.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland point is very well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-04-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Liquidambar styraciflua	5	Y	FAC
2			
3			
4			
5			
6			
7			
8			

5 = Total Cover
 50% of total cover: 2.5 20% of total cover: 1

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Microstegium vimineum	70	Y	FAC
2 Ambrosia artemisiifolia	20	Y	FACU
3 Trifolium repens	5	N	FACU
4			
5			
6			
7			
8			
9			
10			
11			
12			

95 = Total Cover
 50% of total cover: 47.5 20% of total cover: 19

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>75</u>	x 3 = <u>225</u>
FACU species <u>25</u>	x 4 = <u>100</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>100</u> (A)	<u>325</u> (B)

Prevalence Index = B/A = 3.25

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 03-WTL-04-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	5.0 / 4	100				Silt loam	Gravel inclusion

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-05-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): RR Ditch Local relief (concave, convex, none): none Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.320131 Long: -77.449231 Datum: NAD-1983
 Soil Map Unit Name: Alluvial land, sandy and gravelly NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland is situated between the railroad and an industrial park. Field Sheet 06WTL9-wet01 Team 2.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0-8</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology is likely due to runoff from industrial area and ponds at this location between railroad and industrial area.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-05-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Nyssa sylvatica</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u>	(A)
2 <u>Liquidambar styraciflua</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>6</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>100</u> x 1 = <u>100</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>120</u> x 3 = <u>360</u>	
	<u>60</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
	50% of total cover <u>30</u>			UPL species <u>0</u> x 5 = <u>0</u>	
	20% of total cover: <u>12</u>			Column totals <u>220</u> (A) <u>460</u> (B)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>2.09</u>	
1 <u>Nyssa sylvatica</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators:	
2 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
3 _____				<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
4 _____				<input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0	
5 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
6 _____					
7 _____					
8 _____					
	<u>60</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>30</u>			Definitions of Four Vegetation Strata:	
	20% of total cover: <u>12</u>			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
1 <u>Ludwigia palustris</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2 <u>Scirpus cyperinus</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
3 <u>Leersia oryzoides</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>100</u> = Total Cover				
	50% of total cover <u>50</u>				
	20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>				
	20% of total cover: <u>0</u>				

Black willow and sweet gum dominant canopy at data point. Red maple, willow oak, and cottonwood are also present.

SOIL

Sampling Point: **03-WTL-05-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 1	100					silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **The soil appears to be affected by industrial area runoff.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-05-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-05-wet Typical habitat in wetland.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-05-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)	
2					
3					
4					
5					
6					
7					
8					
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>60</u> x 4 = <u>240</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>65</u> (A) <u>255</u> (B) Prevalence Index = B/A = <u>3.92</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2					
3					
4					
5					
6					
7					
8					
50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Lespedeza cuneata</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>		
2 <u>Rubus spp.</u>	<u>15</u>	<u>Y</u>			
3 <u>Crypsis schoenoides</u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
4					
5					
6					
7					
8					
9					
10					
11					
12					
50% of total cover <u>37.5</u> 20% of total cover: <u>15</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>none</u>					
2					
3					
4					
5					
50% of total cover <u>0</u> 20% of total cover: <u>0</u>					Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Plot dominated by sericea lespedeza.

SOIL

Sampling Point: **03-WTL-05-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
								Rocky loam - No color.

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Gravel associated with rail spur is present until edge of wetland, total soil auger refusal.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford Sampling Date: November 4, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-06-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): side channel Local relief (concave, convex, none): depression Slope (%): 1
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.308191 Long: -77.446245 Datum: NAD-1983
 Soil Map Unit Name: Congaree loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a side channel wetland/depression that drains into Stream 1. It is primarily forested on the margins of the water and herbaceous in the gas ROW. Field Sheet: 07AWTL01.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u>X</u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>up to 12</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? (includes capillary fringe) Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u>	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **It is clear this area remains inundated or saturated for long periods.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-06-wet**

Tree Stratum (Plot Size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Betula nigra	33	Y	FACW
2 Quercus phellos	10	N	FACW
3 Liquidambar styraciflua	5	N	FAC
4 Acer rubrum	5	N	FAC
5 Liriodendron tulipifera	5	N	FACU
6			
7			
8			

58 = Total Cover
 50% of total cover: **29** 20% of total cover: **11.6**

Sapling/Shrub Stratum (Plot Size: 15' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Betula nigra	15	Y	FACW
2 Salix nigra	10	Y	OBL
3 Alnus serrulata	5	N	FACW
4 Liquidambar styraciflua	2	N	FAC
5			
6			
7			
8			

32 = Total Cover
 50% of total cover: **16** 20% of total cover: **6.4**

Herb Stratum (Plot Size: 5' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Andropogon virginicus	12	Y	FAC
2 Leersia oryzoides	7	Y	OBL
3 Alnus serrulata	5	Y	FACW
4 Euthamia graminifolia	5	Y	FAC
5 Dichanthelium clandestinum	4	N	FACW
6 Carex spp.	3	N	
7 Symphotrichum lateriflorum	3	N	FAC
8 Eupatorium perfoliatum	2	N	FACW
9 Panicum anceps	1	N	
10 Lespedeza cuneata	1	N	FACU
11 Dichanthelium dichotomum	1	N	FAC
12			

44 = Total Cover
 50% of total cover: **22** 20% of total cover: **8.8**

Woody Vine Stratum (Plot Size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Smilax rotundifolia	1		FAC
2 Lonicera japonica	1		FACU
3			
4			
5			

2 = Total Cover
 50% of total cover: **1** 20% of total cover: **0.4**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **7** (A)

Total Number of Dominant Species Across all Strata: **7** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **100.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 17	x 1 = 17
FACW species 74	x 2 = 148
FAC species 34	x 3 = 102
FACU species 7	x 4 = 28
UPL species 0	x 5 = 0
Column totals 132 (A)	295 (B)

Prevalence Index = B/A = **2.23**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Sample point at edge of pipeline ROW and forest.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-4	10YR 5 / 2	90	10YR 5 / 6	10			sandy loam	lots of organic matter
4-12	10YR 5 / 1	95	10YR 6 / 6	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Lots of organic matter in top 2 inches. Area somewhat disturbed because of gas ROW maintenance.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-06-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-06-wet View of wetland ponding



03-WTL-06-wet View of ponding in wetland



03-WTL-06-wet Inundated portion of wetland.



03-WTL-06-wet View of wetland



03-WTL-06-wet View of soil core sample.



03-WTL-06-wet View of upland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA - Area 3 City/County: Stafford County Sampling Date: November 4, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-06-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 4
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.308381 Long: -77.446228 Datum: NAD-1983
 Soil Map Unit Name: Congaree loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation X, Soil X, or Hydrology significantly disturbed? Yes Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the upland point in the gas ROW east of Wetland 1. It's well drained. Field Sheet: 07AWTL01, upland.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Area is sloping toward wetland and well drianed.	

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-06-upl**

Tree Stratum (Plot Size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Pinus virginiana	12	Y	
2 Quercus coccinea	2	N	
3 Liquidambar styraciflua	2	N	FAC
4 Juniperus virginiana	2	N	FACU
5			
6			
7			
8			

50% of total cover: **9** 20% of total cover: **3.6**
18 = Total Cover

Sapling/Shrub Stratum (Plot Size: 15' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Betula nigra	2		FACW
2			
3			
4			
5			
6			
7			
8			

50% of total cover: **1** 20% of total cover: **0.4**
2 = Total Cover

Herb Stratum (Plot Size: 5' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Andropogon virginicus	50	Y	FAC
2 Betula nigra	5	N	FACW
3 Rhexia virginica	5	N	FACW
4 Carex umbellata	2	N	
5 Dichanthelium scoparium	1	N	FACW
6 Ilex opaca	1	N	FAC
7 Rubus pensilvanicus	1	N	FAC
8			
9			
10			
11			
12			

50% of total cover: **32.5** 20% of total cover: **13**
65 = Total Cover

Woody Vine Stratum (Plot Size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Smilax glauca	2		FAC
2 Campsis radicans	1		FAC
3			
4			
5			

50% of total cover: **1.5** 20% of total cover: **0.6**
3 = Total Cover

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across all Strata: **2** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **50.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 13	x 2 = 26
FAC species 57	x 3 = 171
FACU species 2	x 4 = 8
UPL species 0	x 5 = 0
Column totals 72 (A)	205 (B)

Prevalence Index = B/A = **2.85**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Sample point in managed pipeline ROW.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 6 / 4	95	10YR 5 / 6	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: rocky soil
 Depth (inches): 6

Hydric soil present? Yes No

Remarks: **Could not get to soils below 6 inches (too rocky). Soils in gas ROW appear to be severely disturbed, but well drained at the upland point.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford Sampling Date: August 11, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-07-wet
 Investigator(s): L. Postaski & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of ballast Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.308124 Long: -77.446779 Datum: NAD-1983
 Soil Map Unit Name: _____ NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	

Remarks: **This wetland is located in an old powerline right of way. It is in a small depression between the railroad ballast and a ridge.**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	_____ Surface Soil Cracks (B6)
<u>X</u> Surface Water (A1)	_____ Sparsely Vegetated Concave Surface (B8)
_____ High Water Table (A2)	<u>X</u> Drainage Patterns (B10)
<u>X</u> Saturation (A3)	_____ Moss Trim Lines (B16)
_____ Water Marks (B1)	_____ Dry-Season Water Table (C2)
_____ Sediment Deposits (B2)	_____ Crayfish Burrows (C8)
_____ Drift Deposits (B3)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Algal Mat or Crust (B4)	_____ Geomorphic Position (D2)
_____ Iron Deposits (B5)	_____ Shallow Aquitard (D3)
_____ Inundation Visible on Aerial Imagery (B7)	_____ FAC-Neutral Test (D5)
<u>X</u> Water-Stained Leaves (B9)	_____ Sphagnum moss (D8) (LRR T, U)
<u>X</u> Aquatic Fauna (B13)	
_____ Marl Deposits (B15) (LRR U)	
<u>X</u> Hydrogen Sulfide Odor (C1)	
_____ Oxidized Rhizospheres on Living Roots (C3)	
_____ Presence of Reduced Iron (C4)	
_____ Recent Iron Reduction in Tilled Soils (C6)	
_____ Thin Muck Surface (C7)	
_____ Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? Yes <u>X</u> No _____
Surface water present? Yes <u>X</u> No _____ Depth (inches): <u>0-4"</u>	
Water table present? Yes <u>X</u> No _____ Depth (inches): _____	
Saturation present? (includes capillary fringe) Yes <u>X</u> No _____ Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Considering its size and location in an old powerline right of way, this is a low functioning wetland. There is minimal habitat present within the wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-07-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	Impatiens capensis	20	Yes FACW
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

20 = Total Cover
 50% of total cover: 10 20% of total cover: 4

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>20</u>	x 2 = <u>40</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>20</u>	(A) <u>40</u> (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Duckweed is present on the water's surface. There is algae present in the wetland.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 3 / 2	100					Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Although the soil value and chroma are indicative of redox dark surface/depleted dark surface, there is an apparent lack of redoximorphic features, likely due to ground disturbance from pipeline ROW maintenance. The soils appear to be reducing, however.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-07-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-07-wet Wetland vegetation and old powerline ROW.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-07-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	Foxtail	100	Y
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

100 = Total Cover

50% of total cover: 50 20% of total cover: 20

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>0</u>	(A) <u>0</u> (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 03-WTL-07-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	3 / 4	100				Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford Sampling Date: August 11, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-08-wet
 Investigator(s): L. Postaski & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of ballast Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.302536 Long: -77.447857 Datum: NAD-1983
 Soil Map Unit Name: Cartecay fine sandy loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0-4"</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This wetland is in a pipeline right of way. This is a low functioning wetland with minimal habitat and diversity. It appears to be mowed regularly.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-08-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status	
1	Leersia oryzoides	40	Y	OBL
2	Microstegium vimineum	30	Y	FAC
3	Eleocharis palustris	10	N	OBL
4	Sagittaria latifolia	5	N	OBL
5				
6				
7				
8				
9				
10				
11				
12				

85 = Total Cover
 50% of total cover: **42.5** 20% of total cover: **17**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>55</u>	x 1 = <u>55</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>85</u> (A)	<u>145</u> (B)

Prevalence Index = B/A = 1.71

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
No canopy present.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	3.0 / 2	100				Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Although the soil value and chroma are indicative of redox dark surface/depleted dark surface, there is an apparent lack of redoximorphic features, likely due to ground disturbance from pipeline ROW maintenance.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-08-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-08-wet

Wetland vegetation and saturation.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford Sampling Date: August 11, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-08-upl
 Investigator(s): L. Postaski & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.302477 Long: -77.447849 Datum: NAD-1983
 Soil Map Unit Name: Cartecay fine sandy loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Steep rise to railroad tracks is heavily vegetated.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is very well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-08-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	50	Y	FAC
2 Liquidambar styraciflua	30	Y	FAC
3 Plantanus occidentalis	10	N	
4			
5			
6			
7			
8			

90 = Total Cover
 50% of total cover: **45** 20% of total cover: **18**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	40	Y	FAC
2			
3			
4			
5			
6			
7			
8			

40 = Total Cover
 50% of total cover: **20** 20% of total cover: **8**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

0 = Total Cover
 50% of total cover: **0** 20% of total cover: **0**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Toxicodendron radicans	10		
2			
3			
4			
5			

10 = Total Cover
 50% of total cover: **5** 20% of total cover: **2**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across all Strata: **3** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **100.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 120	x 3 = 360
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column totals 120 (A)	360 (B)

Prevalence Index = B/A = **3.00**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Spars herbaceous layer. A lot of leaf litter present.

SOIL

Sampling Point: 03-WTL-08-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR	3.0 / 3	100				Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-09-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>10</u> (A)	
2 <u>Quercus phellos</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>13</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>76.92%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>85</u> = Total Cover				Prevalence Index worksheet	
50% of total cover <u>42.5</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>17</u>				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>31</u> x 2 = <u>62</u>	
				FAC species <u>70</u> x 3 = <u>210</u>	
				FACU species <u>1</u> x 4 = <u>4</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>102</u> (A) <u>276</u> (B)	
				Prevalence Index = B/A = <u>2.71</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Vaccinium corymbosum</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Vaccinium formosum</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3 _____				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
4 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
<u>7</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>3.5</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>1.4</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Liquidambar styraciflua</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Acer rubrum</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>		
3 <u>Mitchella repens</u>	<u>1</u>	<u>Y</u>	<u>FACU</u>		
4 <u>Chimaphila maculata</u>	<u>1</u>	<u>Y</u>	<u>NA</u>		
5 <u>Nyssa sylvatica</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>		
6 <u>Smilax rotundifolia</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>		
7 <u>Carex albicans</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>		
8 <u>Chasmanthium laxum</u>	<u>1</u>	<u>Y</u>	<u>FACW</u>		
9 <u>Carex sp.</u>	<u>1</u>	<u>Y</u>	<u>NA</u>		
10 _____					
11 _____					
12 _____					
<u>11</u> = Total Cover					
50% of total cover <u>5.5</u>					
20% of total cover: <u>2.2</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
<u>1</u> = Total Cover					
50% of total cover <u>0.5</u>					
20% of total cover: <u>0.2</u>					

Remarks: (If observed, list morphological adaptations below).
Bottomland hardwood forest, red maple and willow oak dominant.

SOIL

Sampling Point: **03-WTL-09-wet-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 4 / 2	90	7.5YR 5 / 8	10	C	M		sandy silt loam
3-15	10YR 5 / 2	70	7.5YR 5 / 8	30	C	M		sandy silt loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-09-wet-1

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 9

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-09-wet-1 Non-vegetated swale in wetland.



03-WTL-09-wet-1 View of PFO portion of wetland



03-WTL-09-wet-1 View of PFO portion of wetland



03-WTL-09-wet-1 View of PFO portion of wetland



03-WTL-09-wet-1 View of PFO portion of wetland



03-WTL-09-wet-1 Shallow root system in fallen tree.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: City of Fredericksburg Sampling Date: September 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-09-wet-2
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Stream terrace/floodplain Local relief (concave, convex, none): convex Slope (%): 0-3%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.278694 Long: -77.4603 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation X, Soil , or Hydrology significantly disturbed? Yes Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: The conditions are generally dry. This is the herbaceous sample point between the ballast and forest edge. Field Sheet WTL0108 wet2, WTL-02-08-WET. Note: lat/long derived from Google Earth.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u>X</u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u>X</u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u>X</u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Floodplain adjacent to perennial stream. Receives infrequent overflow flooding.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-09-wet-2**

Tree Stratum (Plot Size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover				
50% of total cover <u>0</u>				20% of total cover: <u>0</u>
Sapling/Shrub Stratum (Plot Size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover				
50% of total cover <u>0</u>				20% of total cover: <u>0</u>
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Chasmanthium laxum</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Dichantheium dichotomum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Dichantheium scoparium</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4 <u>Euthamia graminifolia</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
5 <u>Scutellaria integrifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
6 <u>Juncus effusus</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
7 <u>Vernonia noveboracensis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
8 <u>Quercus phellos</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
9 <u>Solidago rugosa</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
10 <u>Agalinis purpurea</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
11 <u>Bidens aristosa</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
12 _____				
_____ = Total Cover				
50% of total cover <u>40.5</u>				20% of total cover: <u>16.2</u>
Woody Vine Stratum (Plot Size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover				
50% of total cover <u>0</u>				20% of total cover: <u>0</u>

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>1</u>	x 1 = <u>1</u>
FACW species <u>44</u>	x 2 = <u>88</u>
FAC species <u>36</u>	x 3 = <u>108</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>81</u> (A)	<u>197</u> (B)

Prevalence Index = B/A = 2.43

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

Wet meadow between ballast and forest.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 5 / 1	90					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-09-wet-2

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-09-wet-2 View of PEM portion of wetland



03-WTL-09-wet-2 View of PEM portion of wetland



03-WTL-09-wet-2 View of PEM portion of wetland



03-WTL-09-wet-2 View of PEM portion of wetland

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: City of Fredericksburg Sampling Date: September 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-09-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): RR ballast Local relief (concave, convex, none): Convex Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.27869 Long: -77.46042 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: The conditions are generally dry. This upland point is located along the railroad ballast.			

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<u> </u> Surface Water (A1)	<u> </u> Aquatic Fauna (B13)	<u> </u> Surface Soil Cracks (B6)	
<u> </u> High Water Table (A2)	<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Sparsely Vegetated Concave Surface (B8)	
<u> </u> Saturation (A3)	<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Drainage Patterns (B10)	
<u> </u> Water Marks (B1)	<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Moss Trim Lines (B16)	
<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)	<u> </u> Dry-Season Water Table (C2)	
<u> </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled Soils (C6)	<u> </u> Crayfish Burrows (C8)	
<u> </u> Algal Mat or Crust (B4)	<u> </u> Thin Muck Surface (C7)	<u> </u> Saturation Visible on Aerial Imagery (C9)	
<u> </u> Iron Deposits (B5)	<u> </u> Other (Explain in Remarks)	<u> </u> Geomorphic Position (D2)	
<u> </u> Inundation Visible on Aerial Imagery (B7)		<u> </u> Shallow Aquitard (D3)	
<u> </u> Water-Stained Leaves (B9)		<u> </u> FAC-Neutral Test (D5)	
		<u> </u> Sphagnum moss (D8) (LRR T, U)	
Field Observations:		Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Water table present? Yes <u> </u> No <u>X</u> Depth (inches):		
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: The upland point is located along the railroad ballast, adjacent to a railroad ditch.			

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-09-upl**

Tree Stratum (Plot Size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)	
2 _____	_____	_____	_____		
3 _____	_____	_____	_____		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>5</u> (A) <u>20</u> (B) Prevalence Index = B/A = <u>4.00</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Sapling/Shrub Stratum (Plot Size: _____) 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____ 8 _____					
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					
Herb Stratum (Plot Size: <u>5' radius</u>) 1 <u>Lespedeza spp.</u> <u>10</u> <u>Y</u> _____ 2 <u>Lonicera japonica</u> <u>5</u> <u>Y</u> <u>FACU</u> 3 _____ 4 _____ 5 _____ 6 _____ 7 _____ 8 _____ 9 _____ 10 _____ 11 _____ 12 _____					
_____ = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>					Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes _____ No <u>X</u>
Woody Vine Stratum (Plot Size: _____) 1 _____ 2 _____ 3 _____ 4 _____ 5 _____					
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Minimal vegetation present.

SOIL

Sampling Point: **03-WTL-09-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12								Gravel/restrictive layer

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: Gravel/Ballast rock
 Depth (inches): At surface Hydric soil present? Yes No

Remarks: **A gravel/rock restrictive layer is present along the ballast.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-10-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u> (A/B)
2 <u>Liriodendron tulipifera</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>75</u> = Total Cover 50% of total cover <u>37.5</u> 20% of total cover: <u>15</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>1</u> x 1 = <u>1</u> FACW species <u>77</u> x 2 = <u>154</u> FAC species <u>91</u> x 3 = <u>273</u> FACU species <u>22</u> x 4 = <u>88</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>191</u> (A) <u>516</u> (B) Prevalence Index = B/A = <u>2.70</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Magnolia virginiana</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Vaccinium corymbosum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>52</u> = Total Cover 50% of total cover <u>26</u> 20% of total cover: <u>10.4</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Liquidambar styraciflua</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Carex atlantica</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Lonicera japonica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4 <u>Dichanthelium dichotomum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5 <u>Prunus serotina</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
6 <u>Acer rubrum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
7 <u>Lycopus virginicus</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>64</u> = Total Cover 50% of total cover <u>32</u> 20% of total cover: <u>12.8</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>< 5%</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (If observed, list morphological adaptations below).				

Bottomland hardwood forest with sweetbay dominated understory.

SOIL

Sampling Point: **03-WTL-10-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)		%	Type ¹		
0-2								Duff / leaf litter / no color
2-12	2.5Y 3 / 1	90	5Y 2.5 / 1	10			silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils were very dark and reduced. More clay in soil core beyond 10 inches deep.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-10-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 11

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-10-wet View of wetland



03-WTL-10-wet Undulating swales in wetland.



03-WTL-10-wet Channel and water marks in wetland.



03-WTL-10-wet View of upland



03-WTL-10-wet View of upland



03-WTL-10-wet Wetland soil core

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-10-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata:	<u>4</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC:	<u>50.00%</u> (A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>1</u> x 2 = <u>2</u>	
8 _____				FAC species <u>86</u> x 3 = <u>258</u>	
	<u>80</u> = Total Cover			FACU species <u>55</u> x 4 = <u>220</u>	
	50% of total cover <u>40</u>	20% of total cover: <u>16</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals	<u>142</u> (A) <u>480</u> (B)
1 <u>Liriodendron tulipifera</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index = B/A = <u>3.38</u>	
2 <u>Cornus florida</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
3 <u>Magnolia virginiana</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4 <u>Cornus florida</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5 _____				Definitions of Four Vegetation Strata:	
6 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
7 _____				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>29</u> = Total Cover	20% of total cover: <u>5.8</u>			
	50% of total cover <u>14.5</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Lonicera japonica</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>		
2 <u>Smilax rotundifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
3 <u>Parthenocissus quinquefolia</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
4 <u>Cornus florida</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>32</u> = Total Cover	20% of total cover: <u>6.4</u>			
	50% of total cover <u>16</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>1</u>		<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
	<u>1</u> = Total Cover	20% of total cover: <u>0.2</u>			
	50% of total cover <u>0.5</u>				

Remarks: (If observed, list morphological adaptations below).
Mesic upland hardwood forest with red maple & sweet gum dominant.

SOIL

Sampling Point: **03-WTL-10-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1								Duff / no color
1-12	10YR 5 / 3	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X** _____

Remarks: **Dry soil cores with high chroma colors. No mottling or other hydric features.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: September 1, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-11-wet
 Investigator(s): L. Eggering & L. Postaski Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.274254 Long: -77.456069 Datum: NAD-1983
 Soil Map Unit Name: _____ NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: This wetland is approximately 50 feet north of Lansdown Road.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	<input checked="" type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? (includes capillary fringe) Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area varies from saturated to inundated throughout the wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-11-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Salix nigra	30	Y	OBL
2			
3			
4			
5			
6			
7			
8			

30 = Total Cover
 50% of total cover: 15 20% of total cover: 6

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Typha latifolia	60	Y	OBL
2 Persicaria virginiana	35		FAC
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

95 = Total Cover
 50% of total cover: 47.5 20% of total cover: 19

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
 Total Number of Dominant Species Across all Strata: _____ (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column totals _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
X 1 -Rapid Test for Hydrophytic Vegetation
 _____ 2 - Dominance Test is >50%
 _____ 3 - Prevalence Index is ≤3.0¹
 _____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes **X** No _____

Remarks: (If observed, list morphological adaptations below).
No canopy present.

SOIL

Sampling Point: 03-WTL-11-wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	3.0 / 2	100				Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input checked="" type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **The soils are dark. It is possible that the dark color of the soil is masking redox features.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-11-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: September 1, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-11-upl
 Investigator(s): L. Eggering & L. Postaski Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.27418 Long: -77.4559 Datum: NAD-1983
 Soil Map Unit Name: _____ NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: This upland is approximately 50 feet north of Lansdown Road.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **No hydrology present.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-11-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Liquidambar styraciflua	50	Y	FAC
2			
3			
4			
5			
6			
7			
8			

50 = Total Cover
 50% of total cover: **25** 20% of total cover: **10**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: **0** 20% of total cover: **0**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Poa pratensis	100	Y	FACU
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

100 = Total Cover
 50% of total cover: **50** 20% of total cover: **20**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Campsis radicans	15	Y	FAC
2			
3			
4			
5			

15 = Total Cover
 50% of total cover: **7.5** 20% of total cover: **3**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across all Strata: **3** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **66.67%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 65	x 3 = 195
FACU species 100	x 4 = 400
UPL species 0	x 5 = 0
Column totals 165 (A)	595 (B)

Prevalence Index = B/A = **3.61**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 03-WTL-11-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	5.0 / 4	100				Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-12-wet
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of Ballast Local relief (concave, convex, none): Concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.26305 Long: -77.452785 Datum: NAD-1983
 Soil Map Unit Name: Wickham loam, 2 to 7 percent slopes NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland is a railroad ditch wetland that extends into a forested area north of the west end of the Shannon Airport runway. It becomes an ephemeral channel. The area appears to drain both north and east.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The railroad ditch wetland remains saturated for a long duration during the growing seasons.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-12-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	Juncus effusus 60	Y	OBL
2	Carex spp. 30	Y	
3	Scirpus cyperinus 10	N	OBL
4	Carex frankii 8	N	OBL
5	Dichanthelium clandestinum 2	N	FACW
6			
7			
8			
9			
10			
11			
12			

110 = Total Cover
 50% of total cover: 55 20% of total cover: 22

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	Parthenocissus quinquefolia 8	Y	FACU
2			
3			
4			
5			

8 = Total Cover
 50% of total cover: 4 20% of total cover: 1.6

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index worksheet

Total % Cover of: Multiply by:

OBL species	<u>78</u>	x 1 =	<u>78</u>
FACW species	<u>2</u>	x 2 =	<u>4</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>8</u>	x 4 =	<u>32</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column totals	<u>88</u>	(A)	<u>114</u> (B)

Prevalence Index = B/A = 1.30

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No

Remarks: (If observed, list morphological adaptations below).
The wetland community is narrow and confined to the ditch.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR	4 / 1	100					Sandy loam	
6-12	10YR	6 / 1	95	10YR	5 / 6	5		Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils likely disturbed by the airport fill material and the CSX railroad.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-12-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-12-wet runway.



03-WTL-12-wet Wetland vegetation near base of Shannon Airport runway.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-12-upl
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.263102 Long: -77.452719 Datum: NAD-1983
 Soil Map Unit Name: Wickham loam, 2 to 7 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This upland data point is located near the railroad ditch wetland. It is well drained, has upland (fill) soils, and has upland vegetation.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area is well drained at the end of the runway.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-12-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2		Y	
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	Sorghum halepense	90	Y FACU
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

90 = Total Cover
 50% of total cover: 45 20% of total cover: 18

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	Campsis radicans	10	Y FAC
2			
3			
4			
5			

10 = Total Cover
 50% of total cover: 5 20% of total cover: 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species	0 x 1 = 0
FACW species	0 x 2 = 0
FAC species	10 x 3 = 30
FACU species	90 x 4 = 360
UPL species	0 x 5 = 0
Column totals	100 (A) 390 (B)

Prevalence Index = B/A = 3.90

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
The area is mowed/maintained on an infrequent basis.

SOIL

Sampling Point: 03-WTL-12-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	5 / 6	100				Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This is fill material at the end of an airport runway.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: September 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-13-wet-1
 Investigator(s): B. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.262125 Long: -77.452566 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes ___ No X (If no, explain in Remarks.)
 Are vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes X No ___
 Are vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___
Remarks: This wetland was delineated during abnormally dry hydrological conditions. Field Sheet WTL0308wet1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
___ Surface Water (A1) ___ High Water Table (A2) ___ Saturation (A3) ___ Water Marks (B1) ___ Sediment Deposits (B2) ___ Drift Deposits (B3) ___ Algal Mat or Crust (B4) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) <u>X</u> Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6) <u>X</u> Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) <u>X</u> Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ FAC-Neutral Test (D5) ___ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface water present? Yes ___ No <u>X</u> Depth (inches): Water table present? Yes ___ No <u>X</u> Depth (inches): Saturation present? Yes ___ No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: It was very dry at the time of the survey, but hydrologic evidence shows that the area remains saturated and in places inundated for long durations during the growing season.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-13-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)	
2 <u>Liquidambar styraciflua</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
3 <u>Nyssa sylvatica</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 <u>Pinus taeda</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
5 _____					
6 _____					
7 _____					
8 _____					
<u>105</u> = Total Cover				Prevalence Index worksheet	
50% of total cover <u>52.5</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>21</u>				OBL species <u>1</u> x 1 = <u>1</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				FACW species <u>7</u> x 2 = <u>14</u>	
1 <u>Vaccinium corymbosum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	FAC species <u>115</u> x 3 = <u>345</u>	
2 _____				FACU species <u>1</u> x 4 = <u>4</u>	
3 _____				UPL species <u>0</u> x 5 = <u>0</u>	
4 _____				Column totals <u>124</u> (A) <u>364</u> (B)	
5 _____				Prevalence Index = B/A = <u>2.94</u>	
6 _____				Hydrophytic Vegetation Indicators:	
7 _____				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
8 _____				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
<u>1</u> = Total Cover				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
50% of total cover <u>0.5</u>				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
20% of total cover: <u>0.2</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Leersia virginica</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	Definitions of Four Vegetation Strata:	
2 <u>Dichanthelium dichotomum</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 <u>Carex albicans</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 <u>Carex scoparia</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 <u>Dichanthelium polyanthes</u>	<u>1</u>	<u>N</u>	<u>N/A</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
6 <u>Agrostis perennans</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
7 <u>Lycopus virginicus</u>	<u>1</u>	<u>N</u>	<u>OBL</u>		
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>14</u> = Total Cover				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
50% of total cover <u>7</u>					
20% of total cover: <u>2.8</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
<u>5</u> = Total Cover					
50% of total cover <u>2.5</u>					
20% of total cover: <u>1</u>					

Remarks: (If observed, list morphological adaptations below).
Bottomland hardwood forest, red maple and sweet gum dominant. Disturbed long ago by road/ditch construction.

SOIL

Sampling Point: **03-WTL-13-wet-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-2	10YR 3 / 3	100					loam	
2-13	10YR 5 / 1	80	7.5YR 5 / 8	20	C	PL/M	loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-13-wet-1

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-13-wet-1 View of northern portion of wetland



03-WTL-13-wet-1 Nonvegetated concave area in wetland.



03-WTL-13-wet-1 View of northern portion of wetland



03-WTL-13-wet-1 View of northern portion of wetland



03-WTL-13-wet-1 Bottomland hardwood wetland.



03-WTL-13-wet-1 View of upland, north of wetland

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: September 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-13-upl-1
 Investigator(s): B. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: -77.45279 Long: 38.262274 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Remarks: The hydrologic conditions at the time of delineation were abnormally dry. Field Sheet WTL-03-08-UP.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-13-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>4</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>7</u> x 3 = <u>21</u>	
	<u>0</u> = Total Cover			FACU species <u>95</u> x 4 = <u>380</u>	
	50% of total cover <u>0</u>			UPL species <u>0</u> x 5 = <u>0</u>	
	20% of total cover: <u>0</u>			Column totals <u>102</u> (A) <u>401</u> (B)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>3.93</u>	
1 <u>Prunus serotina</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
2 <u>Ailanthus altissima</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
3 <u>Diospyros virginiana</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	<u> </u> 2 - Dominance Test is >50%	
4 <u>Liquidambar styraciflua</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	<u> </u> 3 - Prevalence Index is ≤3.0	
5 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
6 _____					
7 _____					
8 _____					
	<u>20</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>10</u>			Definitions of Four Vegetation Strata:	
	20% of total cover: <u>4</u>			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
1 <u>Lonicera japonica</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2 <u>Solidago altissima</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
3 <u>Rubus sp.</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
4 <u>Euthamia graminifolia</u>	<u>2</u>	<u>N</u>	<u>FAC</u>		
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>62</u> = Total Cover				
	50% of total cover <u>31</u>				
	20% of total cover: <u>12.4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Hydrophytic vegetation present? Yes <u> </u> No <u>X</u>	
1 <u>Lonicera japonica</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>		
2 _____					
3 _____					
4 _____					
5 _____					
	<u>25</u> = Total Cover				
	50% of total cover <u>12.5</u>				
	20% of total cover: <u>5</u>				

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **03-WTL-13-upl-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	2.5YR 5 / 4	100						fine sandy loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg (city) Sampling Date: September 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-13-wet-2
 Investigator(s): L. Eggering, B. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Flat bottomland Local relief (concave, convex, none): convex Slope (%): 0-1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.261067 Long: -77.451763 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: The delineation was conducted during a very dry fall. Wetland 08-WTL-03 is a bottomland hardwood wetland on NPS Fredericksburg Battlefield known as the "Boggy Gap" in Civil War literature. The wetland extends to the CSX ballast. Field Sheet wet-03-08. Note: Lat/long derived from Google Earth.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u>X</u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **It is evident that this area remains saturated for a long duration during the growing season. Considering the term "Boggy Gap" it has been a wetland predating the Civil War.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-13-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Quercus phellos</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Acer rubrum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Liquidambar styraciflua</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>81</u> = Total Cover 50% of total cover <u>40.5</u> 20% of total cover: <u>16.2</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>58</u> x 2 = <u>116</u> FAC species <u>79</u> x 3 = <u>237</u> FACU species <u>2</u> x 4 = <u>8</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>139</u> (A) <u>361</u> (B) Prevalence Index = B/A = <u>2.60</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Vaccinium corymbosum</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>15</u> = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Microstegium vimineum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Liquidambar styraciflua</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Agrostis perennans</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
4 <u>Solidago rugosa</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
5 <u>Dichanthelium dichotomum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
6 <u>Juncus dichotomus</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
7 <u>Vaccinium corymbosum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
8 <u>Quercus phellos</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
9 _____				
10 _____				
11 _____				
12 _____				
<u>43</u> = Total Cover 50% of total cover <u>21.5</u> 20% of total cover: <u>8.6</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

Bottomland hardwood forest.

SOIL

Sampling Point: **03-WTL-13-wet-2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-1	2.5Y 4 / 1	100					loam	
1-3	2.5Y 5 / 1	98	2.5Y 6 / 8	2	C	PL	silt loam	
3-9	2.5Y 6 / 1	90	2.5Y 6 / 8	10	C	M	silt loam	
9-15	2.5Y 7 / 1	90	10YR 7 / 8	10	C	M	silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soil is dry and friable.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-13-wet-2

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	3	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 11

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-13-wet-2 View of middle of wetland



03-WTL-13-wet-2 View of middle of wetland



03-WTL-13-wet-2 Park sign near CSX ROW.



03-WTL-13-wet-2 Shallow root system.



03-WTL-13-wet-2 Nonvegetated herbaceous layer.



03-WTL-13-wet-2 Swale in wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: September 23, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-13-upl-2
 Investigator(s): L. Eggering Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.252166 Long: -77.439228 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes ___ No X (If no, explain in Remarks.)
 Are vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes ___ No X
 Are vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes ___ No <u>X</u> Wetland Hydrology Present? Yes ___ No <u>X</u>	Is the Sampled Area within a Wetland? Yes ___ No <u>X</u>
Remarks: Sample point was taken south of "Boggy Gap". Hydrologic conditions were dry at the time delineation was completed. Field Sheet wet-03-08 upland. Note: Lat/long derived from Google Earth.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes ___ No <u>X</u> Depth (inches): Water table present? Yes ___ No <u>X</u> Depth (inches): Saturation present? Yes ___ No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes ___ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This is an upland area south of 08-WTL-03. There is a gradual rise in elevation as you move south from 08-WTL-03. This is a bottomland hardwood forest.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-13-upl-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Quercus alba</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u> (A/B)
2 <u>Liquidambar styraciflua</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Quercus phellos</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4 <u>Pinus taeda</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5 _____				
6 _____				
7 _____				
8 _____				
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>43</u> x 3 = <u>129</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>103</u> (A) <u>349</u> (B) Prevalence Index = B/A = <u>3.39</u> Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <u> </u> X 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Liquidambar styraciflua</u>	<u>4</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Acer rubrum</u>	<u>4</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Nyssa sylvatica</u>	<u>4</u>	<u>Y</u>	<u>FAC</u>	
4 <u>Juniperus virginiana</u>			<u>FACU</u>	
5 _____				
6 _____				
7 _____				
8 _____				
<u>12</u> = Total Cover 50% of total cover <u>6</u> 20% of total cover: <u>2.4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Diospyros virginiana</u>	<u>1</u>		<u>FAC</u>	
2 <u>Chimaphila maculata</u>	<u>1</u>			
3 <u>Danthonia spicata</u>	<u>1</u>			
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>3</u> = Total Cover 50% of total cover <u>1.5</u> 20% of total cover: <u>0.6</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <u>X</u> No _____				

Remarks: (If observed, list morphological adaptations below).

Mesic acid white oak-dominated forest.

SOIL

Sampling Point: **03-WTL-13-upl-2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-2	2.5Y 4 / 1	100					loam	
2-7	2.5Y 7 / 4	100					loam	
7-15	2.5Y 6 / 4	100					loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Soil very dry and friable.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg/Spotsylvania Sampling Date: September 23, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-13-wet-3
 Investigator(s): L. Eggering, B. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): flat floodplain Local relief (concave, convex, none): convex/flat Slope (%): 0-1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.257411 Long: -77.446755 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: This sample plot in 08-WLT-03 is in the central portion of the wetland known as 'Boggy Gap'. It is representative of the wetland as a whole. Wetland was surveyed during a very dry fall season. Field Sheet wet-03-08 central sample point. Note: Lat/long derived from Google Earth.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input checked="" type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is obviously inundated and saturated for a long duration.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-13-wet-3**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Liquidambar styraciflua</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across all Strata: <u>7</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Nyssa sylvatica</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Quercus phellos</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
5 <u>Quercus alba</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
6 _____				
7 _____				
8 _____				
<u>100</u> = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>31</u> x 2 = <u>62</u> FAC species <u>81</u> x 3 = <u>243</u> FACU species <u>17</u> x 4 = <u>68</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>129</u> (A) <u>373</u> (B) Prevalence Index = B/A = <u>2.89</u> Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <u> </u> <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <u> </u> <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Acer rubrum</u>	<u>7</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Vaccinium corymbosum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
3 <u>Gaylussacia baccata</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
4 <u>Quercus alba</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
5 _____				
6 _____				
7 _____				
8 _____				
<u>11</u> = Total Cover 50% of total cover <u>5.5</u> 20% of total cover: <u>2.2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Chasmanthium laxum</u>	<u>7</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Carex albicans</u>	<u>4</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Liquidambar styraciflua</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
4 <u>Bidens aristosa</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
5 <u>Nyssa sylvatica</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
6 <u>Smilax rotundifolia</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
7 <u>Acer rubrum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
8 <u>Quercus phellos</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
9 <u>Ilex opaca</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
10 _____				
11 _____				
12 _____				
<u>18</u> = Total Cover 50% of total cover <u>9</u> 20% of total cover: <u>3.6</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.				
Hydrophytic vegetation present? Yes <u> </u> <input checked="" type="checkbox"/> No <u> </u>				

Remarks: (If observed, list morphological adaptations below).

Bottomland hardwood forest.

SOIL

Sampling Point: **03-WTL-13-wet-3**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-2	10YR 3 / 1	100					silt loam	
2-10	10YR 5 / 1	80	7.5YR 5 / 3	15				
			10YR 7 / 1	5			silt loam	depleted matrix
10-15	10YR 5 / 1	80	10YR 7 / 1	15			clay loam	depletion
			7.5YR 5 / 8	5			clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are strongly reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-13-wet-3

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	3	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 11

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-13-wet-3 View of southern portion of wetland



03-WTL-13-wet-3 View of southern portion of wetland



03-WTL-13-wet-3 View of southern portion of wetland



03-WTL-13-wet-3 View of southern portion of wetland



03-WTL-13-wet-3 View of southern portion of wetland



03-WTL-13-wet-3 Soils in shallow root system.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-14-wet
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): <1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.260842 Long: -77.45052 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	

Remarks: **This wetland is primarily a forested wetland that also includes a railroad ditch component. The forest community mimics the wetland community west of the CSX line. The maintenance of drainage along the CSX ROW adversely affects the hydrology of the wetland. The same wetland system is represented as two different polygons in GIS (03-WTL-14 and 03-WTL-15).**

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		<u> </u> Surface Soil Cracks (B6)
<u> </u> Surface Water (A1)	<u> </u> Aquatic Fauna (B13)	<u>X</u> Sparsely Vegetated Concave Surface (B8)
<u> </u> High Water Table (A2)	<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Drainage Patterns (B10)
<u> </u> Saturation (A3)	<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)	<u> </u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled Soils (C6)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Thin Muck Surface (C7)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Other (Explain in Remarks)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)		<u> </u> FAC-Neutral Test (D5)
<u>X</u> Water-Stained Leaves (B9)		<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations:		Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Surface water present?	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Water table present?	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? (includes capillary fringe)	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Forested flat that was bisected by the CSX railroad. Evidence indicated that the area is infrequently inundated or saturated to the surface. The excavated railroad ditch adversely affects the hydrology in the area, but the ditch and the forested portion would have the requisite hydrology.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-14-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>
2 <u>Quercus phellos</u>	<u>10</u>	<u>N</u>	<u>FACW</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

60 = Total Cover
 50% of total cover: 30 20% of total cover: 12

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2 <u>Quercus phellos</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

20 = Total Cover
 50% of total cover: 10 20% of total cover: 4

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Acer rubrum</u>	<u>1</u>		<u>FAC</u>
2 <u>Quercus phellos</u>	<u>1</u>		<u>FACW</u>
3 <u>Carex albicans</u>	<u>1</u>		<u>FAC</u>
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			
9 _____			
10 _____			
11 _____			
12 _____			

3 = Total Cover
 50% of total cover: 1.5 20% of total cover: 0.6

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 _____			
2 _____			
3 _____			
4 _____			
5 _____			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>21</u>	x 2 = <u>42</u>
FAC species <u>62</u>	x 3 = <u>186</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>83</u> (A)	<u>228</u> (B)

Prevalence Index = B/A = 2.75

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
The herbaceous layer is nearly absent.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-4	10YR	4 / 1	100					Loam	
4-12	10YR	6 / 1	95	10YR	5 / 6	5		Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
 Hydric soil present? Yes No

Remarks: **There is a lot of organic matter in the top 2 inches of the soil core.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-14-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 9

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-14-wet Water stained leaves in PFO portion of the wetland.



03-WTL-14-wet Bottomland hardwoods within wetland.



03-WTL-14-wet Railroad ditch portion of wetland system.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-14-upl
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.260793 Long: -77.450668 Datum: NAD-1983
 Soil Map Unit Name: Wickham loam, 2 to 7 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>	

Remarks: **This upland data point is located between the bottomland hardwood and railroad ditch components of this wetland system. The wetland system is represented by two different polygons in GIS (03-WTL-14 and 03-WTL-15). The area is raised and does not have the requisite hydrology to be considered a wetland.**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	<u> </u> Surface Soil Cracks (B6)
<u> </u> Surface Water (A1)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> High Water Table (A2)	<u> </u> Drainage Patterns (B10)
<u> </u> Saturation (A3)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Water-Stained Leaves (B9)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Aquatic Fauna (B13)	
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area is located across from Boggy Gap. The upland point is on a raised area.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-14-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2		Y	
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Liquidambar styraciflua	5	Y	FAC
2 Ailanthus altissima	5	Y	FACU
3			
4			
5			
6			
7			
8			

10 = Total Cover
 50% of total cover: 5 20% of total cover: 2

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Sorghum halepense	45	Y	FACU
2 Microstegium vimineum	50		FAC
3 Tripsacum dactyloides	5		FAC
4			
5			
6			
7			
8			
9			
10			
11			
12			

100 = Total Cover
 50% of total cover: 50 20% of total cover: 20

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Campsis radicans	5	Y	FAC
2			
3			
4			
5			

5 = Total Cover
 50% of total cover: 2.5 20% of total cover: 1

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 40.00% (A/B)

Prevalence Index worksheet

Total % Cover of: Multiply by:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	65	x 3 =	195
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column totals	115	(A)	395 (B)

Prevalence Index = B/A = 3.43

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).
The area remains herbaceous due to railroad maintenance.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-4	10YR	5 / 4	100					Loam	
4-12	10YR	5 / 6	95	10YR	5 / 2	5		Sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **The soil is likely disturbed from the excavated railroad ditch. The area is near the toe of the railroad ballast.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-15-wet
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): <1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.260842 Long: -77.45052 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	

Remarks: **This wetland is primarily a forested wetland that also includes a railroad ditch component. The forest community mimics the wetland community west of the CSX line. The maintenance of drainage along the CSX ROW adversely affects the hydrology of the wetland. The same wetland system is represented as two different polygons in GIS (03-WTL-14 and 03-WTL-15).**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	<u> </u> Surface Soil Cracks (B6)
<u> </u> Surface Water (A1)	<u>X</u> Sparsely Vegetated Concave Surface (B8)
<u> </u> High Water Table (A2)	<u> </u> Drainage Patterns (B10)
<u> </u> Saturation (A3)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> FAC-Neutral Test (D5)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Aquatic Fauna (B13)	
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Forested flat that was bisected by the CSX railroad. Evidence indicated that the area is infrequently inundated or saturated to the surface. The excavated railroad ditch adversely affects the hydrology in the area, but the ditch and the forested portion would have the requisite hydrology.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-15-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>
2 <u>Quercus phellos</u>	<u>10</u>	<u>N</u>	<u>FACW</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

60 = Total Cover
 50% of total cover: 30 20% of total cover: 12

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2 <u>Quercus phellos</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

20 = Total Cover
 50% of total cover: 10 20% of total cover: 4

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Acer rubrum</u>	<u>1</u>		<u>FAC</u>
2 <u>Quercus phellos</u>	<u>1</u>		<u>FACW</u>
3 <u>Carex albicans</u>	<u>1</u>		<u>FAC</u>
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			
9 _____			
10 _____			
11 _____			
12 _____			

3 = Total Cover
 50% of total cover: 1.5 20% of total cover: 0.6

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 _____			
2 _____			
3 _____			
4 _____			
5 _____			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>21</u>	x 2 = <u>42</u>
FAC species <u>62</u>	x 3 = <u>186</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>83</u> (A)	<u>228</u> (B)

Prevalence Index = B/A = 2.75

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
The herbaceous layer is nearly absent.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-4	10YR	4 / 1	100					Loam	
4-12	10YR	6 / 1	95	10YR	5 / 6	5		Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
 Hydric soil present? Yes No

Remarks: **There is a lot of organic matter in the top 2 inches of the soil core.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-15-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 9

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-15-wet Water stained leaves in PFO portion of the wetland.



03-WTL-15-wet Bottomland hardwoods within wetland.



03-WTL-15-wet Railroad ditch portion of wetland system.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-15-upl
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.260793 Long: -77.450668 Datum: NAD-1983
 Soil Map Unit Name: Wickham loam, 2 to 7 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	

Remarks: **This upland data point is located between the bottomland hardwood and railroad ditch components of this wetland system. The wetland system is represented by two different polygons in GIS (03-WTL-14 and 03-WTL-15). The area is raised and does not have the requisite hydrology to be considered a wetland.**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area is located across from Boggy Gap. The upland point is on a raised area.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-15-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2		Y	
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Liquidambar styraciflua	5	Y	FAC
2 Ailanthus altissima	5	Y	FACU
3			
4			
5			
6			
7			
8			

10 = Total Cover
 50% of total cover: 5 20% of total cover: 2

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Sorghum halepense	45	Y	FACU
2 Microstegium vimineum	50		FAC
3 Tripsacum dactyloides	5		FAC
4			
5			
6			
7			
8			
9			
10			
11			
12			

100 = Total Cover
 50% of total cover: 50 20% of total cover: 20

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Campsis radicans	5	Y	FAC
2			
3			
4			
5			

5 = Total Cover
 50% of total cover: 2.5 20% of total cover: 1

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 40.00% (A/B)

Prevalence Index worksheet

Total % Cover of: Multiply by:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	65	x 3 =	195
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column totals	115	(A)	395 (B)

Prevalence Index = B/A = 3.43

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
The area remains herbaceous due to railroad maintenance.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-4	10YR	5 / 4	100					Loam	
4-12	10YR	5 / 6	95	10YR	5 / 2	5		Sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **The soil is likely disturbed from the excavated railroad ditch. The area is near the toe of the railroad ballast.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Olive Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-16-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.214626 Long: -77.439529 Datum: NAD-1983

Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland is within a clear-cut area, approximately 120 feet from the railroad ballast.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6 inches</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This is a clear cut area with saturated soils.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-16-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Acer rubrum</u>	<u>5</u>		<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Alnus serrulata</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>		Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Juncus effusus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>		Hydrophytic vegetation present? Yes <u>X</u> No _____
2 <u>Carex spp.</u>	<u>5</u>	<u>Y</u>			
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>15</u> = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 _____					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **03-WTL-16-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹		
0-3	10YR 6 / 2		90	10YR 6 / 8	10			clay loam
3-12+	10YR 4 / 1		100					clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are being reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-16-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Olive Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-16-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): base of ballast Local relief (concave, convex, none): none Slope (%): 20%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.214946 Long: -77.438949 Datum: NAD-1983
 Soil Map Unit Name: Udothents-Udifluents complex, gently sloping NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil X, or Hydrology significantly disturbed? Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland point taken at base of railroad ballast. Soils are well drained.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-16-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>25.00%</u> (A/B)
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>25</u> (A) <u>80</u> (B) Prevalence Index = B/A = <u>3.20</u> Hydrophytic Vegetation Indicators: ___ 1 -Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Juniperus virginiana</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Panicum spp.</u>	<u>30</u>	<u>Y</u>	_____	
2 <u>Phytolacca americana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3 <u>Dichanthelium clandestinum</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
11 _____	_____	_____	_____	
12 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>25</u> 20% of total cover: <u>10</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).
Herbicide may have been applied to toe of railroad ballast.

SOIL

Sampling Point: **03-WTL-16-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 4	100					Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soil from base of ballast.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-17-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Railroad ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.213798 Long: -77.438262 Datum: NAD-1983
 Soil Map Unit Name: Dystrochrepts-Udults complex NWI classification: PFO/PSS
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil X, or Hydrology X significantly disturbed? Yes Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is a recent man-made stormwater pond and adjacent railroad ditch parallel to the CSX line. A small check dam (rip-rap) in the drainage swale appears to pond water up to 8 inches deep. Large trees have recently died and other growth indicates that this stormwater improvement probably occurred in the last 5-7 years. Since this is for stormwater purposes and there are no hydric soils it is likely not jurisdictional. During a December 16, 2015 field review with the USACE and VDEQ, the agencies requested that the boundary be extended to include an area that was filled with soil from adjacent hillside erosion. Field Sheet 10-A-WTL-05 wetDP1	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0-5</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The rip-rap check dam creates the small pond. Since the area has some upland vegetation in the bottom, it likely dries out quickly. Surface runoff comes from the railroad ditch to the south. If the rip-rap check dam were removed, the area would drain and would not pond water.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-17-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Betula nigra</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Quercus phellos</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Echinochloa muricata</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Andropogon virginicus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>17.5</u> 20% of total cover: <u>7</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
The large upland trees have dies (likely due to water stress) and river birch has begun to grow on the margins along with loblolly pine and Virginia pine. 80% of the ponded area is not vegetated.

SOIL

Sampling Point: **03-WTL-17-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 4	98		2			sandy loam	Lots of rock in core

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils appear to be subsoil from stormwater construction.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-17-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-17-wet Inundated portion of wetland.



03-WTL-17-wet View of wetland.



03-WTL-17-wet View of filled portion of wetland from hillside erosion (see note about USACE and DEQ field review).



03-WTL-17-wet Upland data point near wetland.



03-WTL-17-wet Wetland soil core

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-17-upl
 Investigator(s): L. eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad spoil Local relief (concave, convex, none): convex Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.189857 Long: -77.446631 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Data point on railroad spoil (elevated area) between WTL 4 and railroad. Field Sheet 10-A-WTL-04 upDP1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil is well drained. This sample point is in a disturbed area near the toe of the ballast.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-17-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>20.00%</u> (A/B)
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>30</u> (A) <u>90</u> (B) Prevalence Index = B/A = <u>3.00</u> Hydrophytic Vegetation Indicators: ___ 1 -Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Juniperus virginiana</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Pinus virginiana</u>	<u>15</u>	<u>Y</u>	_____	
2 <u>Dichanthelium clandestinum</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Yucca spp.</u>	<u>15</u>	<u>Y</u>	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
11 _____	_____	_____	_____	
12 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Rubus spp.</u>	<u>80</u>	<u>Y</u>	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>40</u> 20% of total cover: <u>16</u>				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No _____

Remarks: (If observed, list morphological adaptations below).
Plants are adapted to the dry sandy soil conditions.

SOIL

Sampling Point: **03-WTL-17-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 3 / 2	100					loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Core taken in railroad spoil.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-18-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.210447 Long: -77.436997 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This railroad ditch wetland has the requisite hydrology and vegetation and although the soils are not currently hydric, they are being actively reduced. This is now the normal circumstance and would likely be considered a wetland. This area connects to the eroded hillside referenced in the previous data sheet that was reviewed with the USACE and VDEQ on December 16, 2016. Field Sheet 10-A-WTL-06 wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>7</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area ponds water and remains saturated for a long duration.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-18-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Eleocharis acicularis</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Echinochloa muricata</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3 <u>Saccharum giganteum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4 <u>Carex spp.</u>	<u>5</u>	<u>N</u>		
5 <u>Hypnum imponens</u>	<u>5</u>	<u>N</u>		
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>32.5</u> 20% of total cover: <u>13</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
The bottom of the ditch/swale has obligate plants. The E. muricata and plume grass are on higher portions of the swale.

SOIL

Sampling Point: **03-WTL-18-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 3	75	10YR 6 / 1	25			sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Although this soil does not meet the reduced matrix, it is actively being reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-18-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-18-wet View of railroad ditch wetland.



03-WTL-18-wet View of wetland



03-WTL-18-wet Disturbed soils in core sample.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-18-upl
 Investigator(s): L. eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 45%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.210509 Long: -77.436987 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland data point on hillslope northeast of WTL-06. Field Sheet 10-A-WTL-06 upDP1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is very steep and well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-18-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 Pinus taeda	80	Y	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 Pinus virginiana	10	N		
3				
4				
5				
6				
7				
8				
50% of total cover <u>45</u> 20% of total cover: <u>18</u> Total Cover: <u>90</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>87</u> x 3 = <u>261</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>87</u> (A) <u>261</u> (B) Prevalence Index = B/A = <u>3.00</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 Pinus taeda	2		FAC	
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>1</u> 20% of total cover: <u>0.4</u> Total Cover: <u>2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 none				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>0</u> 20% of total cover: <u>0</u> Total Cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 Smilax rotundifolia	5	Y	FAC	
2				
3				
4				
5				
50% of total cover <u>2.5</u> 20% of total cover: <u>1</u> Total Cover: <u>5</u>				
50% of total cover <u>2.5</u> 20% of total cover: <u>1</u> Total Cover: <u>5</u>				
Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

Remarks: (If observed, list morphological adaptations below).
Eroded hillslope dominated by pines.

SOIL

Sampling Point: **03-WTL-18-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 4 / 2	95		5			loam	5% organic matter
3-12	10YR 5 / 4	95	10YR 6 / 8	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Soils were not reduced.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-19-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.20832 Long: -77.436608 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This was a railroad ditch wetland that appeared to be saturated or inundated for long durations during the growing season. It was divided into 2 segments by a raised area, and it drains into a culvert that flows east under the railroad tracks. Delineated after a 3-day rain event. Field Sheet 10-A-WTL-02 rrditch wetland wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u>X</u> Oxidized Rhizospheres on Living Roots (C3)
<u> </u> Drift Deposits (B3)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Algal Mat or Crust (B4)	<u>X</u> Presence of Reduced Iron (C4)
<u> </u> Iron Deposits (B5)	<u> </u> Crayfish Burrows (C8)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Water-Stained Leaves (B9)	<u> </u> Geomorphic Position (D2)
<u> </u> Aquatic Fauna (B13)	<u> </u> Shallow Aquitard (D3)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>> 12</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This railroad ditch wetland remains saturated and inundated for long durations during the growing season. Ditch's coming into either side of the wetland are likely dry ephemeral railroad ditch channels during the growing season with upland plants, e.g. Virginia pine, in the bottom. Filamentous algae was growing in the ponded area.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-19-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Eleocharis acicularis</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Juncus effusus</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Unknown lichen</u>	<u>10</u>	<u>Y</u>		
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Smilax rotundifolia</u>	<u>2</u>		<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				

Remarks: (If observed, list morphological adaptations below).
The lower portions of the wetland were not vegetated. Area had been sprayed with herbicide.

SOIL

Sampling Point: **03-WTL-19-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 6 / 1	80	10YR 6 / 8	20			silt loam	some sand in core

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils in wetland were disturbed by railroad activities, but they were actively reducing.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-19-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-19-wet View upstream along CSX.



03-WTL-19-wet View downstream toward culvert under railroad.



03-WTL-19-wet Upland soil core



03-WTL-19-wet View upstream



03-WTL-19-wet Wetland soil core



03-WTL-19-wet Wetland soil

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-19-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 50%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.208271 Long: -77.436684 Datum: NAD-1983
 Soil Map Unit Name: Dystrochrepts-Udults complex, steep NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: The upland point is on a well cut bank adjacent to 10-WTL-02. Soil would be typically well drained. It was raining at time of delineation. Field Sheet 10-A-WTL-02 updp1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Saturation due to 3 day rain event. Soils would normally be moderatly to well-drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-19-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Pinus virginiana</u>	<u>90</u>	<u>Y</u>		Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>0</u> (A) <u>0</u> (B)
= Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>				
= Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
= Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
= Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
= Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
= Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
= Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
= Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index = B/A = Hydrophytic Vegetation Indicators: ___ 1 -Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
= Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
= Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
= Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic vegetation present? Yes ___ No <u>X</u>

Remarks: (If observed, list morphological adaptations below).
Understory nearly absent.

SOIL

Sampling Point: **03-WTL-19-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 6	80	10YR 6 / 8	20			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This is well-drained upland soil.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Olive Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-20-wet
 Investigator(s): L. Postaski, R. Mangum Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.211884 Long: -77.437571 Datum: NAD-1983
 Soil Map Unit Name: Kempsville gravelly sandy loam, 7 to 15 percent slopes NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This railroad ditch wetland located approximately 20 feet from the railway. To the east of the wetland is a hillslope and a railyard located off of Crossroads Parkway.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area ponds water and remains saturated for a long duration.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-20-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Total Cover <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Total Cover <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1	<u>25</u>	<u>Y</u>	<u>OBL</u>	
2	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3	<u>5</u>	<u>N</u>	<u>FACW</u>	
4	<u>5</u>	<u>N</u>		
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				
Total Cover <u>45</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Total Cover <u>0</u>				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across all Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column totals _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **03-WTL-20-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 3	75	10YR 6 / 1	25			sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No

Remarks: **Although this soil does not meet the reduced matrix, it is actively being reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-20-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Olive Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-20-upl
 Investigator(s): L. eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 45%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.211957 Long: -77.43751 Datum: NAD-1983
 Soil Map Unit Name: Kempsville gravelly sandy loam, 7 to 15 percent slopes NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland data point on hillslope east of the wetland.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is steep and well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-20-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 Pinus taeda	20	Y	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
2 Pinus virginiana	15	Y		
3				
4				
5				
6				
7				
8				
35 = Total Cover 50% of total cover <u>17.5</u> 20% of total cover: <u>7</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>35</u> (A) <u>105</u> (B) Prevalence Index = B/A = <u>3.00</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 Pinus taeda	5	Y	FAC	
2				
3				
4				
5				
6				
7				
8				
5 = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 Smilax rotundifolia	10	Y	FAC	
2				
3				
4				
5				
10 = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Remarks: (If observed, list morphological adaptations below). Eroded hillslope dominated by pines.				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

SOIL

Sampling Point: **03-WTL-20-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 4 / 2	100					Loam	
3-12	10YR 5 / 4	100					Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils were not reduced and were well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-21-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Nyssa sylvatica</u>	<u>30</u>		<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Liquidambar styraciflua</u>	<u>20</u>		<u>FAC</u>	
3 <u>Liriodendron tulipifera</u>	<u>5</u>		<u>FACU</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>55</u> = Total Cover 50% of total cover <u>27.5</u> 20% of total cover: <u>11</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>55</u> x 3 = <u>165</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>225</u> (B) Prevalence Index = B/A = <u>2.81</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Clethra alnifolia</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>20</u> = Total Cover 50% of total cover <u>10</u> 20% of total cover: <u>4</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Remarks: (If observed, list morphological adaptations below). Herb layer nearly absent due to shade from overstory.				

SOIL

Sampling Point: **03-WTL-21-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 4 / 2		75	10YR 6 / 1	25			silt loam	some sand in core
3-12	10YR 5 / 2		55	10YR 5 / 8	45			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils were borderline on the matrix colors, but since this is now the normal circumstances and since the soils are actively reducing, they would be considered hydric for purposes of the delineation.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-21-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 8

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-21-wet View of wetland



03-WTL-21-wet Shallow roots in wetland

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-21-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.208247 Long: -77.436849 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifulvents complex, gently sloping NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Data point adjacent to 10-A-WTL-01. Point is on a slight hillslope that is well drained. It was raining at time of delineation. Field Sheet 10-A-WTL-01 updp1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soils were saturated due to recent 3 day rain event. Soils would normally be moderately well drained. Slope is not reducing.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-21-upl**

Tree Stratum	(Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>Quercus alba</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>
2	<u>Nyssa sylvatica</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
3	<u>Liriodendron tulipifera</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
4	<u>Pinus virginiana</u>	<u>10</u>	<u>N</u>	
5				
6				
7				
8				

90 = Total Cover
 50% of total cover 45 20% of total cover: 18

Sapling/Shrub Stratum	(Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>Quercus alba</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
2	<u>Nyssa sylvatica</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
3	<u>Liriodendron tulipifera</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
4				
5				
6				
7				
8				

15 = Total Cover
 50% of total cover 7.5 20% of total cover: 3

Herb Stratum	(Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>none</u>			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

0 = Total Cover
 50% of total cover 0 20% of total cover: 0

Woody Vine Stratum	(Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>none</u>			
2				
3				
4				
5				

0 = Total Cover
 50% of total cover 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>70</u>	x 4 = <u>280</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>95</u> (A)	<u>355</u> (B)

Prevalence Index = B/A = 3.74

- Hydrophytic Vegetation Indicators:**
- 1 -Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0
 - Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).
Area to the north cutover within the past 10 years.

SOIL

Sampling Point: **03-WTL-21-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 6	95	10YR 6 / 2	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils were clearly upland and normally well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-22-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Railroad ditch wetland Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.205997 Long: -77.436276 Datum: NAD-1983
 Soil Map Unit Name: Dystrochrepts-Udults complex NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This railroad ditch wetland is a boggy area at the base of a small upland draw. There may be some groundwater interaction. Delineation conducted after a 3-day rain event. Field Sheet 10-A-WTL-03 boggy area wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Water Marks (B1)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Geomorphic Position (D2)
<u> </u> Presence of Reduced Iron (C4)	<u> </u> Shallow Aquitard (D3)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Thin Muck Surface (C7)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Other (Explain in Remarks)	
<u> </u> Sediment Deposits (B2)	
<u> </u> Drift Deposits (B3)	
<u> </u> Algal Mat or Crust (B4)	
<u> </u> Iron Deposits (B5)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u> </u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area appears to remain saturated for long durations during the growing season. There may be a groundwater seep present during the dry periods.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-22-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Thuidium recognitum</u>	<u>70</u>	<u>Y</u>		
2 <u>Eleocharis acicularis</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
The spike rush was primarily in the railroad ditch, whereas the sheet moss was in the saturated areas to the west.

SOIL

Sampling Point: **03-WTL-22-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 1	95	10YR 6 / 6	5			silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils were reduced and very dark, indicating that there may be a groundwater connection.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-22-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-22-wet Boggy area



03-WTL-22-wet View of wetland looking toward tracks



03-WTL-22-wet Wetland soil core



03-WTL-22-wet Wetland soil



03-WTL-22-wet Upland soil core



03-WTL-22-wet Upland soil

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-22-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 50%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.20595 Long: -77.436252 Datum: NAD-1983

Soil Map Unit Name: Dystrochrepts-Udults complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Data point taken adjacent to 10-WTL-03 (railroad ditch). Point on well drained hill slope on NW side of wetland. Virginia pine is dominant vegetation. Field Sheet 10-A-WTL-03 near boggy area upDP1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soils were saturated due to 3 day rain event. Soils would normally be well-drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-22-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Pinus virginiana</u>	<u>60</u>	<u>Y</u>		Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2 _____				Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>5</u> (A) <u>15</u> (B) Prevalence Index = B/A = <u>3.00</u>
5 _____				
6 _____				
7 _____				
8 _____				
<u>60</u> = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Pinus virginiana</u>	<u>30</u>	<u>Y</u>		
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>30</u> = Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Hydrophytic vegetation present? Yes <u>X</u> No _____				

Remarks: (If observed, list morphological adaptations below).
Most of the herbaceous vegetation had senesced in the late fall making identification to species very difficult.

SOIL

Sampling Point: **03-WTL-22-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 6 / 3	80	10YR 6 / 8	20			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **This is well-drained upland soil.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-23-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.189637 Long: -77.446206 Datum: NAD-1983

Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a broad flat swale that appears to connect to a wetland on the western side of the railroad. The wetland hydrology appears to be influenced by beaver activity.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u>X</u> Drainage Patterns (B10)
<u>X</u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u>X</u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0- 2"</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area appears to remain saturated for long durations during the growing season. The alder has buttressed trunk, and there are shallow root systems on fallen trees.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-23-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>4</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>5</u> x 1 = <u>5</u>	
7 _____				FACW species <u>92</u> x 2 = <u>184</u>	
8 _____				FAC species <u>5</u> x 3 = <u>15</u>	
	<u>5</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
	50% of total cover <u>2.5</u>	20% of total cover: <u>1</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>102</u> (A) <u>204</u> (B)	
1 <u>Alnus serrulata</u>	<u>80</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index = B/A = <u>2.00</u>	
2 <u>Clethra alnifolia</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators:	
3 _____				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
4 _____				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
5 _____				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____					
8 _____					
	<u>90</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>45</u>	20% of total cover: <u>18</u>		Definitions of Four Vegetation Strata:	
Herb Stratum (Plot Size: <u>5' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>Carex spp.</u>	<u>10</u>	<u>Y</u>		Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 <u>Juncus effusus</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 <u>Dichanthelium clandestinum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>17</u> = Total Cover			Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
	50% of total cover <u>8.5</u>	20% of total cover: <u>3.4</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 _____					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **03-WTL-23-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 1	95	10YR 5 / 3	5			Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are affected by nearby ballast.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-23-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	3	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-23-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Ballast slope Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.189385 Long: -77.446974 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifulvents complex, gently sloping NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u> X </u> Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Remarks: The upland point was taken in an elevated area between the wetland and the railway. Benchmark Road runs proximal to the upland point.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil is well drained. This sample point is in a disturbed area near the toe of the ballast.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-23-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)	
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>25.00%</u> (A/B)	
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet	
50% of total cover <u>0</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>0</u>				OBL species <u>0</u> x 1 = <u>0</u>	
_____ = Total Cover				FACW species <u>10</u> x 2 = <u>20</u>	
50% of total cover <u>5</u>				FAC species <u>0</u> x 3 = <u>0</u>	
20% of total cover: <u>2</u>				FACU species <u>10</u> x 4 = <u>40</u>	
_____ = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>	
50% of total cover <u>5</u>				Column totals <u>20</u> (A) <u>60</u> (B)	
20% of total cover: <u>2</u>				Prevalence Index = B/A = <u>3.00</u>	
_____ = Total Cover				Hydrophytic Vegetation Indicators:	
50% of total cover <u>5</u>				____ 1 -Rapid Test for Hydrophytic Vegetation	
20% of total cover: <u>2</u>				____ 2 - Dominance Test is >50%	
_____ = Total Cover				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
50% of total cover <u>5</u>				____ Problematic Hydrophytic Vegetation ¹ (Explain)	
20% of total cover: <u>2</u>					
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>5</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>2</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
_____ = Total Cover				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
50% of total cover <u>5</u>				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
20% of total cover: <u>2</u>				Woody vines - All woody vines greater than 3.28 ft in height.	
_____ = Total Cover					
50% of total cover <u>5</u>					
20% of total cover: <u>2</u>					
_____ = Total Cover					
50% of total cover <u>12.5</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
20% of total cover: <u>5</u>					
_____ = Total Cover					
50% of total cover <u>12.5</u>					
20% of total cover: <u>5</u>					
_____ = Total Cover					
50% of total cover <u>12.5</u>					
20% of total cover: <u>5</u>					
_____ = Total Cover					
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Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 2	100					Loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **The soil core was taken near the toe of the ballast. Soils are well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-24-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.189955 Long: -77.446663 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a broad flat swale that intersects with Stream 1. Beavers have ponded the southern portion of the wetland causing the stream to become braided (cutting new channels). The upper portion, north of the culvert, may have some groundwater interaction as the soils are very depleted. Field Sheet 10-A-WTL-04 wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>up to 2"</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area appears to remain saturated for long durations during the growing season. The alder has buttressed trunk, and there are shallow root systems on fallen trees.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-24-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>4</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>5</u> x 1 = <u>5</u>	
7 _____				FACW species <u>112</u> x 2 = <u>224</u>	
8 _____				FAC species <u>5</u> x 3 = <u>15</u>	
	<u>5</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
	50% of total cover <u>2.5</u>	20% of total cover: <u>1</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>122</u> (A) <u>244</u> (B)	
1 <u>Alnus serrulata</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index = B/A = <u>2.00</u>	
2 <u>Clethra alnifolia</u>	<u>20</u>	<u>N</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators:	
3 _____				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
4 _____				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
5 _____				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____					
8 _____					
	<u>110</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>55</u>	20% of total cover: <u>22</u>		Definitions of Four Vegetation Strata:	
Herb Stratum (Plot Size: <u>5' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>Carex spp.</u>	<u>10</u>	<u>Y</u>		Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 <u>Juncus effusus</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 <u>Dichanthelium clandestinum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>17</u> = Total Cover			Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
	50% of total cover <u>8.5</u>	20% of total cover: <u>3.4</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).
Most herbaceous vegetation in wetland has senesced.

SOIL

Sampling Point: **03-WTL-24-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 1	95	10YR 5 / 3	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are affected by nearby ballast.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-24-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	3	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-24-wet Beaver dam at south end of wetland.



03-WTL-24-wet View of area ponded by beaver activity at base of ballast.



03-WTL-24-wet North end of wetland facing west.



03-WTL-24-wet Culvert under railroad.



03-WTL-24-wet Stream one ponded.



03-WTL-24-wet Stream one ponded.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-24-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Ballast slope Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.189857 Long: -77.446631 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Data point on railroad spoil (elevated area) between WTL 4 and railroad. Field Sheet 10-A-WTL-04 upDP1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil is well drained. This sample point is in a disturbed area near the toe of the ballast.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-24-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>20.00%</u> (A/B)	
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet	
50% of total cover <u>0</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>0</u>				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>15</u> x 2 = <u>30</u>	
				FAC species <u>0</u> x 3 = <u>0</u>	
				FACU species <u>15</u> x 4 = <u>60</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>30</u> (A) <u>90</u> (B)	
				Prevalence Index = B/A = <u>3.00</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Juniperus virginiana</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
2 _____	_____	_____	_____	<u> </u> 2 - Dominance Test is >50%	
3 _____	_____	_____	_____	<u> </u> X 3 - Prevalence Index is ≤3.0	
4 _____	_____	_____	_____	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>7.5</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>3</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Pinus virginiana</u>	<u>15</u>	<u>Y</u>	_____		
2 <u>Dichanthelium clandestinum</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>		
3 <u>Yucca spp.</u>	<u>15</u>	<u>Y</u>	_____		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
9 _____	_____	_____	_____		
10 _____	_____	_____	_____		
11 _____	_____	_____	_____		
12 _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover <u>22.5</u>					
20% of total cover: <u>9</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Rubus spp.</u>	<u>80</u>	<u>Y</u>	_____		
2 _____	_____	_____	_____		
3 _____	_____	_____	_____		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover <u>40</u>					
20% of total cover: <u>16</u>					

Remarks: (If observed, list morphological adaptations below).
Plants are adapted to the dry sandy soil conditions.

SOIL

Sampling Point: **03-WTL-24-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 3 / 2	100					loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Core taken in toe of railroad spoil.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-25-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): draw Local relief (concave, convex, none): convex Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.187375 Long: -77.450239 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a wet draw and railroad ditch wetland. It is primarily forested in the draw portion and emergent herbaceous/forested/scrub-shrub in the railroad ditch portion. Field Sheet 10-A-WTL-07 wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area appears to remain ponded or saturated for long durations during the growing season. The CSX maintenance road helps pond water in the draw (there is a culvert under the road). The draw to the east transitions into very small braided channels outside the study corridor.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-25-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>40</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2 <u>Liquidambar styraciflua</u>	<u>20</u>		<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>4</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)	
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>40</u> x 1 = <u>40</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>115</u> x 3 = <u>345</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>165</u> (A) <u>405</u> (B) Prevalence Index = B/A = <u>2.45</u>	
5 _____					
6 _____					
7 _____					
8 _____					
<u>60</u> = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Acer rubrum</u>	<u>30</u>		<u>FAC</u>		
2 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>		
3 <u>Alnus serrulata</u>	<u>10</u>	<u>N</u>	<u>FACW</u>		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>60</u> = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Juncus effusus</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
2 <u>Eleocharis spp.</u>	<u>20</u>	<u>Y</u>			
3 <u>Eleocharis obtusa</u>	<u>10</u>	<u>N</u>	<u>OBL</u>		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>60</u> = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Smilax glauca</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____	

Remarks: (If observed, list morphological adaptations below).
The herb layer is primarily in the wetter portions of the railroad ditch. The forested portions shade out most of the herb layer.

SOIL

Sampling Point: **03-WTL-25-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3 / 1	95		5			sandy loam	5% organic matter
3-12	10YR 6 / 2	90	10YR 5 / 6	10			sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils were being reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-25-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-25-wet Inundated woolgrass in wetland.



03-WTL-25-wet View of wetland, facing tracks.



03-WTL-25-wet View of wetland.



03-WTL-25-wet Culvert under water.



03-WTL-25-wet View of wetland from data point.



03-WTL-25-wet Wetland soil core.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-25-upl
 Investigator(s): L. eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.187321 Long: -77.450240 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Data point on hill slope between access road and WTL-07. Soils would typically be moderately well drained, but due to a 3-day rain event are saturated. White oak and red maple are dominant vegetation species. Field Sheet 10-A-WTL-07 upDP1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>3 inches</u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soils are saturated due to a 3-day rain event. Soils would typically be moderately drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-25-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Quercus alba</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u>	(A)
2 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>5</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>4</u> x 2 = <u>8</u>	
8 _____				FAC species <u>25</u> x 3 = <u>75</u>	
	<u>90</u> = Total Cover			FACU species <u>80</u> x 4 = <u>320</u>	
	50% of total cover <u>45</u>			UPL species <u>0</u> x 5 = <u>0</u>	
	20% of total cover: <u>18</u>			Column totals <u>109</u> (A) <u>403</u> (B)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>3.70</u>	
1 <u>Quercus alba</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
2 <u>Alnus serrulata</u>	<u>4</u>	<u>Y</u>	<u>FACW</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
3 _____				<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
4 _____				<u>3</u> - Prevalence Index is ≤3.0	
5 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
6 _____					
7 _____					
8 _____					
	<u>14</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>7</u>			Definitions of Four Vegetation Strata:	
	20% of total cover: <u>2.8</u>			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
1 <u>none</u>				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>0</u> = Total Cover			Hydrophytic vegetation present? Yes <u>X</u> No _____	
	50% of total cover <u>0</u>				
	20% of total cover: <u>0</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
	<u>5</u> = Total Cover				
	50% of total cover <u>2.5</u>				
	20% of total cover: <u>1</u>				

Remarks: (If observed, list morphological adaptations below).
Herb layer nearly absent.

SOIL

Sampling Point: **03-WTL-25-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 3 / 2	100					sandy loam	
3-12	10YR 5 / 4	95	10YR 6 / 8	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils disturbed from creation of access road and are not hydric.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-26-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): draw Local relief (concave, convex, none): convex Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.187375 Long: -77.450239 Datum: NAD-1983

Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a wet draw and railroad ditch wetland. It is primarily forested in the draw portion and emergent herbaceous/forested/scrub-shrub in the railroad ditch portion. The same wetland point was used for both 03-WTL-25-wet and 03-WTL-26-wet. Field Sheet 10-A-WTL-07 wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area appears to remain ponded or saturated for long durations during the growing season. The CSX maintenance road helps pond water in the draw (there is a culvert under the road). The draw to the east transitions into very small braided channels outside the study corridor.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-26-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 Acer rubrum	40		FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
2 Liquidambar styraciflua	20		FAC	
3				
4				
5				
6				
7				
8				
50% of total cover <u>30</u> 20% of total cover: <u>12</u> Total Cover: <u>60</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>40</u> x 1 = <u>40</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>115</u> x 3 = <u>345</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>165</u> (A) <u>405</u> (B) Prevalence Index = B/A = <u>2.45</u> Hydrophytic Vegetation Indicators: ___ 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 Acer rubrum	30		FAC	
2 Liquidambar styraciflua	20	Y	FAC	
3 Alnus serrulata	10	N	FACW	
4				
5				
6				
7				
8				
50% of total cover <u>30</u> 20% of total cover: <u>12</u> Total Cover: <u>60</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 Juncus effusus	30	Y	OBL	
2 Eleocharis spp.	20	Y		
3 Eleocharis obtusa	10	N	OBL	
4				
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>30</u> 20% of total cover: <u>12</u> Total Cover: <u>60</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 Smilax glauca	5	Y	FAC	
2				
3				
4				
5				
50% of total cover <u>2.5</u> 20% of total cover: <u>1</u> Total Cover: <u>5</u>				

Remarks: (If observed, list morphological adaptations below).
The herb layer is primarily in the wetter portions of the railroad ditch. The forested portions shade out most of the herb layer.

SOIL

Sampling Point: **03-WTL-26-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3 / 1	95		5			sandy loam	5% organic matter
3-12	10YR 6 / 2	90	10YR 5 / 6	10			sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils were being reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-26-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-26-wet Inundated woolgrass in wetland.



03-WTL-26-wet View of wetland, facing tracks.



03-WTL-26-wet View of wetland.



03-WTL-26-wet Culvert under water.



03-WTL-26-wet View of wetland from data point.



03-WTL-26-wet Wetland soil core.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-26-upl
 Investigator(s): L. eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.187321 Long: -77.450240 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Data point on hill slope between access road and WTL-07. Soils would typically be moderately well drained, but due to a 3-day rain event are saturated. White oak and red maple are dominant vegetation species. The same upland point was used for 03-WTL-25-upl and 03-WTL-26-upl. Field Sheet 10-A-WTL-07 upDP1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>3 inches</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soils are saturated due to a 3-day rain event. Soils would typically be moderately drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-26-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Quercus alba</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3 _____				Total Number of Dominant Species Across all Strata: <u>5</u> (B)
4 _____				
5 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u> (A/B)
6 _____				
7 _____				Prevalence Index worksheet
8 _____				
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>4</u> x 2 = <u>8</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>109</u> (A) <u>403</u> (B)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>3.70</u>
1 <u>Quercus alba</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:
2 <u>Alnus serrulata</u>	<u>4</u>	<u>Y</u>	<u>FACW</u>	
3 _____				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
4 _____				
5 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6 _____				
7 _____				Definitions of Four Vegetation Strata:
8 _____				
<u>14</u> = Total Cover 50% of total cover <u>7</u> 20% of total cover: <u>2.8</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Herb Stratum (Plot Size: <u>5' radius</u>)				Hydrophytic vegetation present? Yes <u>X</u> No _____
1 <u>none</u>				
2 _____				0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>
3 _____				
4 _____				Woody Vine Stratum (Plot Size: <u>30' radius</u>)
5 _____				
6 _____				5 = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>
7 _____				
8 _____				5 Y FAC
9 _____				
10 _____				5 Y FAC
11 _____				
12 _____				5 Y FAC

Remarks: (If observed, list morphological adaptations below).
Herb layer nearly absent.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 3 / 2	100					sandy loam	
3-12	10YR 5 / 4	95	10YR 6 / 8	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils disturbed from creation of access road and are not hydric.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-27-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.182007 Long: -77.453786 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland is an alder thicket adjacent to Stream 5. The ground is saturated & stream is braided through the alders. Wetland is close to the boundary of the alignment where it switches back to the west side of the tracks. Note: No photographs of this wetland. Field Sheet 10-B-WTL-11 wet #1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0-12</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology contributed by Stream 5 before it passes under CSX rail. Beaver activity is cause of braided nature of Stream 5 through the alders.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-27-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>125</u> (A) <u>305</u> (B) Prevalence Index = B/A = <u>2.44</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Alnus serrulata</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	
2				
3				
4				
5				
6				
7				
8				
60 = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Microstegium vimineum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Carex spp.</u>	<u>5</u>	<u>N</u>		
3 <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4				
5				
6				
7				
8				
9				
10				
11				
12				
70 = Total Cover 50% of total cover <u>35</u> 20% of total cover: <u>14</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

Remarks: (If observed, list morphological adaptations below).

Primarily an alder swamp.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-12+	10YR	4 / 1					clay	very saturated and mucky

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-27-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 12%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.182028 Long: -77.453919 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Upland area is a stark contrast to wetland. Elevation change is 1.5-2.5 ft. Herbaceous layer goes from a mat of Japanese stilt grass & carex species to thick smilax & honeysuckle. Note: No photographs for this wetland. Field Sheet 10-B-WTL-11-Upland 1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-27-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Acer rubrum</u>	60	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2 _____				Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>130</u> x 3 = <u>390</u> FACU species <u>25</u> x 4 = <u>100</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>155</u> (A) <u>490</u> (B) Prevalence Index = B/A = <u>3.16</u>
5 _____				
6 _____				
7 _____				
8 _____				
<u>60</u> = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Ilex opaca</u>	70	Y	FAC	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>70</u> = Total Cover 50% of total cover <u>35</u> 20% of total cover: <u>14</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Smilax spp.</u>	20	Y		
2 <u>Lonicera japonica</u>	20	Y	FACU	
3 <u>Juniperus virginiana</u>	5	N	FACU	
4 <u>Shagnum spp.</u>	5	N		
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>50</u> = Total Cover 50% of total cover <u>25</u> 20% of total cover: <u>10</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes _____ No <u>X</u>				

Remarks: (If observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3 / 2	100					loam	lots of organics
3-12+	10YR 3 / 2	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **No mottles and crumbly with less clay than adjacent wetland area.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-28-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.184329 Long: -77.452529 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PFO/PSS/PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland is a railroad ditch. It is emergent herbaceous/forested/scrub-shrub. It drains to the south, but poorly. It eventually transitions into a dry ditch. Field Sheet 10-A-WTL-08 wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>12 inches</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area appears to remain ponded or saturated for long durations during the growing season.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-28-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Acer rubrum</u>	<u>10</u>		<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>45</u> x 3 = <u>135</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>70</u> (A) <u>180</u> (B) Prevalence Index = B/A = <u>2.57</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Alnus serrulata</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Liquidambar styraciflua</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
4				
5				
6				
7				
8				
<u>45</u> = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Juncus effusus</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Smilax rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2				
3				
4				
5				
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Hydrophytic vegetation present? Yes <u>X</u> No _____				
				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.				
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks: (If observed, list morphological adaptations below). 20% open water from recent flooding.				

SOIL

Sampling Point: **03-WTL-28-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹		
0-5	10YR 4 / 1		95	10YR 5 / 6	5			clay loam
5-12+	10YR 5 / 1		90	10YR 5 / 6	10			clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils were being reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-28-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-28-wet Inundated portion of railroad ditch wetland.



03-WTL-28-wet View of wetland



03-WTL-28-wet View of wetland



03-WTL-28-wet View of wetland



03-WTL-28-wet Railroad ditch wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-28-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.184273 Long: -77.452373 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Data point on hill slope between WTL-08 and access road. Soil is saturated due to recent rain events. Typically, soil would be moderatley well drained. Field Sheet 10-A-WTL-08 upDP1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0-3</u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soils are saturated due to a 3-day rain event. Soils would typically be moderately drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-28-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Pinus virginiana</u>	<u>90</u>	<u>Y</u>		Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u>	(A)
2 <u>Quercus stellata</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	Total Number of Dominant Species Across all Strata: <u>5</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>40.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>15</u> x 3 = <u>45</u>	
	<u>95</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
	50% of total cover <u>47.5</u>	20% of total cover: <u>19</u>		UPL species <u>10</u> x 5 = <u>50</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>25</u> (A) <u>95</u> (B)	
1 <u>Quercus stellata</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>	Prevalence Index = B/A = <u>3.80</u>	
2 <u>Pinus virginiana</u>	<u>5</u>	<u>Y</u>		Hydrophytic Vegetation Indicators:	
3 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5 _____				Definitions of Four Vegetation Strata:	
6 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
7 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
8 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
9 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
10 _____				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
11 _____					
12 _____					
	<u>15</u> = Total Cover				
	50% of total cover <u>7.5</u>	20% of total cover: <u>3</u>			
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Ilex opaca</u>					
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
	<u>10</u> = Total Cover				
	50% of total cover <u>5</u>	20% of total cover: <u>2</u>			

Remarks: (If observed, list morphological adaptations below).

Herb layer nearly absent.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12+	10YR 6 / 3	98	10YR 6 / 6	2			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils disturbed from creation of access road.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-29-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.181752 Long: -77.453097 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a large alder floodplain wetland. The area is adjacent to a nearby creek (Claiborne Run) that braids through the floodplain. Field Sheet 10-A-WTL-09 Alder floodplain.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u>X</u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u>X</u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u>X</u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The floodplain is very wet and likely receives groundwater seepage from adjacent upland as well as creek overflow.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-29-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3				
4				
5				
6				
7				
8				
<u>70</u> = Total Cover 50% of total cover <u>35</u> 20% of total cover: <u>14</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u>80</u> x 3 = <u>240</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>170</u> (A) <u>410</u> (B) Prevalence Index = B/A = <u>2.41</u> Hydrophytic Vegetation Indicators: <u>1</u> -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50% <input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Alnus serrulata</u>	<u>80</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3				
4				
5				
6				
7				
8				
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Juncus effusus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Herbaceous layer primarily absent under alder thicket. Rushes and sedges in a few non-shaded areas.

SOIL

Sampling Point: **03-WTL-29-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 1	95	10YR 6 / 1	5			silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils were super saturated due to recent rains.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-29-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-29-wet View of wetland from access road



03-WTL-29-wet Water from wetland converging access road



03-WTL-29-wet Water from wetland covering access road/gas ROW.



10-WTL-09-wet July 2016 photograph.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-29-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 20%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.182204 Long: -77.451974 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is an upland point near Wetland 10. It is well drained and does not have hydric soils. Delineated after a 3-day rain event. Field Sheet 10-A-WTL-09 Alder Floodplain upland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is sloping and well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-29-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Pinus virginiana</u>	<u>20</u>	<u>Y</u>		Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)
2 <u>Quercus alba</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>6</u>	(B)
3 <u>Fagus grandifolia</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>16.67%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>20</u> x 3 = <u>60</u>	
	<u>60</u> = Total Cover			FACU species <u>40</u> x 4 = <u>160</u>	
	50% of total cover <u>30</u>	20% of total cover: <u>12</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>60</u> (A) <u>220</u> (B)	
1 <u>Pinus virginiana</u>	<u>20</u>	<u>Y</u>		Prevalence Index = B/A = <u>3.67</u>	
2 _____				Hydrophytic Vegetation Indicators:	
3 _____				<u>1</u> -Rapid Test for Hydrophytic Vegetation	
4 _____				<u>2</u> - Dominance Test is >50%	
5 _____				<u>3</u> - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____				1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8 _____				Definitions of Four Vegetation Strata:	
	<u>20</u> = Total Cover			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
	50% of total cover <u>10</u>	20% of total cover: <u>4</u>		Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
1 <u>Diphasiastrum digitatum</u>	<u>20</u>	<u>Y</u>		Woody vines - All woody vines greater than 3.28 ft in height.	
2 _____				Hydrophytic vegetation present? Yes <u> </u> No <u>X</u>	
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>20</u> = Total Cover				
	50% of total cover <u>10</u>	20% of total cover: <u>4</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
	<u>20</u> = Total Cover				
	50% of total cover <u>10</u>	20% of total cover: <u>4</u>			

Remarks: (If observed, list morphological adaptations below).
Much of the herbaceous layer is absent due to shade from the overstory.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12+	10YR 5 / 4	95	10YR 6 / 8	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils appear to be well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: June 20, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-30-wet
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.180128 Long: -77.454032 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	

Remarks: **The wetland sample point is in the gas right of way. This is another datasheet in a series of wetlands in the Claiborne Run floodplain.**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> Surface Water (A1)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> High Water Table (A2)	<u>X</u> Drainage Patterns (B10)
<u>X</u> Saturation (A3)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Water-Stained Leaves (B9)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u>X</u> Aquatic Fauna (B13)	
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:		
Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>5"</u>		
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>		
Saturation present? (includes capillary fringe) Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u>	Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area varies from saturated to inundated throughout the wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-30-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status	
1	Leersia oryzoides	90	Y	OBL
2	Sagittaria latifolia	3	N	OBL
3	Dichanthelium clandestinum	8	Rank error!	FACW
4	Dichanthelium dichotomum	2	N	FAC
5				
6				
7				
8				
9				
10				
11				
12				

103 = Total Cover

50% of total cover: **51.5** 20% of total cover: **20.6**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across all Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column totals _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Very dense stand of ricecut grass.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 3.0 / 1	100					Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **The sample point is in the gas right of way. The soils are likely disturbed from maintenance activities. The dark color of the soil is likely masking the redox features in the soil core.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-30-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 7

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: June 20, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-30-upl
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Elevated roadway Local relief (concave, convex, none): _____ Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.180127 Long: -77.454093 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		

Remarks: **This is an upland point near wetland 1a. It lacks hydrology and requist soils. Field Sheet: 6-B-WTL-3**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	_____ Surface Soil Cracks (B6)
_____ Surface Water (A1)	_____ Sparsely Vegetated Concave Surface (B8)
_____ High Water Table (A2)	_____ Drainage Patterns (B10)
_____ Saturation (A3)	_____ Moss Trim Lines (B16)
_____ Water Marks (B1)	_____ Dry-Season Water Table (C2)
_____ Sediment Deposits (B2)	_____ Crayfish Burrows (C8)
_____ Drift Deposits (B3)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Algal Mat or Crust (B4)	_____ Geomorphic Position (D2)
_____ Iron Deposits (B5)	_____ Shallow Aquitard (D3)
_____ Inundation Visible on Aerial Imagery (B7)	_____ FAC-Neutral Test (D5)
_____ Water-Stained Leaves (B9)	_____ Sphagnum moss (D8) (LRR T, U)
_____ Aquatic Fauna (B13)	
_____ Marl Deposits (B15) (LRR U)	
_____ Hydrogen Sulfide Odor (C1)	
_____ Oxidized Rhizospheres on Living Roots (C3)	
_____ Presence of Reduced Iron (C4)	
_____ Recent Iron Reduction in Tilled Soils (C6)	
_____ Thin Muck Surface (C7)	
_____ Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>
Water table present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The upland sample point is elevated above the wetland area. It is located next to a maintenance road. The area is moderately well-drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-30-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Liquidambar styraciflua	60	Y	FAC
2			
3			
4			
5			
6			
7			
8			

60 = Total Cover
 50% of total cover: **30** 20% of total cover: **12**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Vaccinium corymbosum	10	Y	FACW
2 Liquidambar styraciflua	5	Y	FAC
3 Juniperus virginiana	5	Y	FACU
4 Clethra alnifolia	5	Y	
5			
6			
7			
8			

25 = Total Cover
 50% of total cover: **12.5** 20% of total cover: **5**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Rubus flagellaris	20	Y	UPL
2 Quercus rubra	5	N	FACU
3 Ilex opaca	5	N	FAC
4			
5			
6			
7			
8			
9			
10			
11			
12			

30 = Total Cover
 50% of total cover: **15** 20% of total cover: **6**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Smilax glauca	5	Y	FAC
2			
3			
4			
5			

5 = Total Cover
 50% of total cover: **2.5** 20% of total cover: **1**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across all Strata: **7** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **57.14%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 10	x 2 = 20
FAC species 75	x 3 = 225
FACU species 10	x 4 = 40
UPL species 20	x 5 = 100
Column totals 115 (A)	385 (B)

Prevalence Index = B/A = **3.35**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
The upland point is on the margin of a PFO/PEM habitat.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3.0 / 1	100					Sandy loam	Coal ash present in soil

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soil is likely disturbed. The sample point is within a gas right of way next to a maintenance road on. Soils are moderately well-drained. 5-10% slope.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-31-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.178153 Long: -77.456004 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland is similar to Wetland 7, which was also a railroad ditch wetland. Note: No photographs were taken of this railroad ditch wetland, and it has very low functional values. Field Sheet 10-WTL-10-wet 1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Water Marks (B1)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Geomorphic Position (D2)
<u> </u> Sediment Deposits (B2)	<u> </u> Shallow Aquitard (D3)
<u> </u> Presence of Reduced Iron (C4)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Drift Deposits (B3)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Algal Mat or Crust (B4)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Iron Deposits (B5)	
<u> </u> Other (Explain in Remarks)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u> </u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Railroad ditch that remains saturated and ponds water for long durations.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-31-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Juncus effusus</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Carex spp.</u>	<u>15</u>	<u>Y</u>		
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>37.5</u> 20% of total cover: <u>15</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **03-WTL-31-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-12	10YR 5 / 1	90	7.5YR 5 / 8	10			clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Rail side ditch.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-31-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.178153 Long: -77.456074 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland data point near railroad ditch wetland. Field Sheet 10-WTL-10-Up1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland that is moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-31-upl**

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Pinus virginiana</u>	<u>20</u>	<u>Y</u>		Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
50% of total cover <u>10</u>		20% of total cover: <u>4</u>		
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: ___ 1 -Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
50% of total cover <u>0</u>		20% of total cover: <u>0</u>		
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>senesced grass</u>	<u>15</u>	<u>Y</u>		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
50% of total cover <u>7.5</u>		20% of total cover: <u>3</u>		
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>
2 _____				
3 _____				
4 _____				
5 _____				
50% of total cover <u>0</u>		20% of total cover: <u>0</u>		

Remarks: (If observed, list morphological adaptations below).
Senesced grass could not be identified to species.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-2	10YR 3 / 2	100					loam	lots of organics
2-12+	10YR 5 / 3	60	7.5YR 5 / 6	40			clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-32-wet-1
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.176383 Long: -77.457139 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland part of same wetland/stream/floodplain system as wetlands 8, 9, & 11 along Claiborne Run. Field Sheet 10-A-WTL-10 wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u>3</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Some surface water is present in wetland, especially in rutted areas. Soil is saturated.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-32-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Carex spp.</u>	<u>40</u>	<u>Y</u>		
2 <u>Bolboschoenus fluviatilis</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Bidens spp.</u>	<u>10</u>	<u>N</u>		
4 <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
				Hydrophytic vegetation present? Yes <u>X</u> No _____

Remarks: (If observed, list morphological adaptations below).
Much of the vegetation is mowed or disturbed. The mowed and senesced Carex cannot be identified to species.

SOIL

Sampling Point: **03-WTL-32-wet-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹		
0-5	10YR 3 / 1		95	10YR 4 / 6	5			clay loam
5-12+	10YR 6 / 2		90	10YR 5 / 8	10			clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are clearly reducing, but there is a lot of disturbance in this area from roadway/equipment activities.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-32-wet-1

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-32-wet-1 Floodplain wetland view of gasoline ROW adjacent tracks.



03-WTL-32-wet-1 Floodplain wetland, view of inundated access road.



10-WTL-10-wet July 2014 wetland vegetation.



10-WTL-10-wet July 2014 wetland vegetation.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-32-upl-1
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): base of ballast Local relief (concave, convex, none): none Slope (%): 15%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.176461 Long: -77.457201 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil X, or Hydrology significantly disturbed? Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Data point at base of railroad ballast on slight slope. Soil is coal-like, gritty, and well drained. Field Sheet 10-A-WTL-10 upDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil (coal-like) is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-32-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Dichanthelium clandestinum</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Bidens spp.</u>	<u>20</u>	<u>Y</u>		
3 <u>Panicum spp.</u>	<u>5</u>	<u>N</u>		
4 <u>Sorghum halepense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
No tree or sapling stratum.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12+	10YR 3 / 1	100					sand	coal-like & gritty

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils impacted by railroad. Coal-like and gritty (black).**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: June 20, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-32-wet-2
 Investigator(s): L. Eggering Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.176748 Long: -77.456899 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	

Remarks: **This is another portion of the series of Claiborne Run wetlands in the floodplain. It will connect to previously delineated areas. The sample point lies between a maintained gas ROW and line of trees, then the CSX ballast.**

Note: this wetland is part of Segment 10, and was one of the rework areas.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		<u> </u> Surface Soil Cracks (B6)
<u>X</u> Surface Water (A1)	<u> </u> Aquatic Fauna (B13)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> High Water Table (A2)	<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Drainage Patterns (B10)
<u>X</u> Saturation (A3)	<u>X</u> Hydrogen Sulfide Odor (C1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled Soils (C6)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Thin Muck Surface (C7)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Other (Explain in Remarks)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)		<u> </u> FAC-Neutral Test (D5)
<u> </u> Water-Stained Leaves (B9)		<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations:		Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Surface water present?	Yes <u>X</u> No <u> </u> Depth (inches): <u>2"</u>	
Water table present?	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? (includes capillary fringe)	Yes <u>X</u> No <u> </u> Depth (inches): <u>8'</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The bottom of the wetland undulates. In places it is dry, in others it is saturated; it is inundated in low areas. A slight sulfide odor was observed.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-32-wet-2**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	40	Y	FAC
2			
3			
4			
5			
6			
7			
8			

40 = Total Cover
 50% of total cover: **20** 20% of total cover: **8**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Alnus serrulata	20	Y	FACW
2 Clethra alnifolia	20	Y	FACW
3 Liquidambar styraciflua	10	Y	FAC
4			
5			
6			
7			
8			

50 = Total Cover
 50% of total cover: **25** 20% of total cover: **10**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Microstegium vimineum	40	Y	FAC
2 Juncus effusus	10	Y	OBL
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

50 = Total Cover
 50% of total cover: **25** 20% of total cover: **10**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: **0** 20% of total cover: **0**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **6** (A)

Total Number of Dominant Species Across all Strata: **6** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **100.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 10	x 1 = 10
FACW species 40	x 2 = 80
FAC species 90	x 3 = 270
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column totals 140 (A)	360 (B)

Prevalence Index = B/A = **2.57**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
The wetland point was taken at the edge of the tree line and a gas ROW.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR	3 / 1	100					Sandy loam	
3-12	10YR	5 / 2	90	10YR	5 / 8	5		Sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks: **More clay is present in the bottom 9 inches of the soil core.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-32-wet-2

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-32-wet-2 Claiborne Run wetland.



03-WTL-32-wet-2 Habitat in Claiborne Run wetlands.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: June 20, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-32-upl-2
 Investigator(s): L. Eggering Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe ballast Local relief (concave, convex, none): Convex Slope (%): 4%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.176793 Long: -77.456988 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>	

Remarks: **This is the upland point for the south end of the wetland 1a which connects to previously delineated wetlands.**
Field Sheet: 21-WTL-01aSouth-upl

Note: These points are part of Segment 10 and were part of the rework areas.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	<u> </u> Surface Soil Cracks (B6)
<u> </u> Surface Water (A1)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> High Water Table (A2)	<u> </u> Drainage Patterns (B10)
<u> </u> Saturation (A3)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Water-Stained Leaves (B9)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Aquatic Fauna (B13)	
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is moderately well-drained near the CSX ballast.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-32-upl-2**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	Setaria viridis 60	Y	
2	Rubus flagellaris 20	Y	UPL
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

80 = Total Cover
 50% of total cover: 40 20% of total cover: 16

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>20</u>	x 5 = <u>100</u>
Column totals <u>20</u> (A)	<u>100</u> (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).
Toe of ballast vegetation is somewhat sparse.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 3 / 1	100						Rock and coal ash.

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Coal ash mixed with rock from the ballast. Rock was 90% of the core.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-33-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.17146 Long: -77.458537 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland is part of the same stream and floodplain (Claiborne Run) system as wetlands 8, 9, and 10. The easternmost portion is an alder dominated floodplain. Field Sheet 10-A-WTL-11 wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6 inches</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Some areas are rutted with standing water, but the majority is just saturated.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-33-wet**

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Acer rubrum</u>	<u>20</u>		<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
50% of total cover <u>10</u>		20% of total cover: <u>4</u>		Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>Alnus serrulata</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>		
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
50% of total cover <u>5</u>		20% of total cover: <u>2</u>			
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Juncus effusus</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
2 <u>Carex spp.</u>	<u>5</u>	<u>Y</u>			
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
50% of total cover <u>5</u>		20% of total cover: <u>2</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____	
2 _____					
3 _____					
4 _____					
5 _____					
50% of total cover <u>0</u>		20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).
The area near the roadway is disturbed with vehicle ruts and mowing. The Carex cannot be identified to species.

SOIL

Sampling Point: **03-WTL-33-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 6 / 2	90	10YR 6 / 8	10			clay loam	
3-12+	10YR 4 / 1	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are being reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-33-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-33-wet View of wetland in gas ROW



03-WTL-33-wet Inundated portions of wetland.



03-WTL-33-wet Wetland soil core



03-WTL-33-wet Wetland soil



03-WTL-33-wet Wetland soil

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-33-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): base of ballast Local relief (concave, convex, none): none Slope (%): 20%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.171364 Long: -77.45861 Datum: NAD-1983
 Soil Map Unit Name: Udothents-Udifluents complex NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil X, or Hydrology significantly disturbed? Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland point taken at base of railroad ballast. Soil is coal-like and gritty, well-drained. Field Sheet 10-A-WTL-11 upDP1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-33-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>25</u> (A) <u>90</u> (B) Prevalence Index = B/A = <u>3.60</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Juniperus virginiana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2				
3				
4				
5				
6				
7				
8				
10 = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Panicum spp.</u>	<u>30</u>	<u>Y</u>		
2 <u>Phytolacca americana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3 <u>Dichanthelium clandestinum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4				
5				
6				
7				
8				
9				
10				
11				
12				
45 = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Herbicide may have been applied to toe of railroad ballast.

SOIL

Sampling Point: **03-WTL-33-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 3 / 1	100					sand	coal-like

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soil from base of ballast. Soil is coal-like and gritty fill material.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-34-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.171361 Long: -77.458925 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This PSS wetland is in the floodplain near Claiborne Run. Note: Photos from December 2015 and July 2016 were added. Field Sheet 10-WTL-09-wet 1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Saturated at 6 inches.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-34-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Acer rubrum</u>	<u>15</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2 _____				Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>5</u> x 5 = <u>25</u> Column totals <u>100</u> (A) <u>280</u> (B) Prevalence Index = B/A = <u>2.80</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5 _____				
6 _____				
7 _____				
8 _____				
<u>15</u> = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Alnus serrulata</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Acer rubrum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>25</u> = Total Cover 50% of total cover <u>12.5</u> 20% of total cover: <u>5</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Microstegium vimineum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Carex spp.</u>	<u>5</u>	<u>N</u>		
3 <u>Scirpus cyperinus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4 <u>Rubus flagellaris</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>65</u> = Total Cover 50% of total cover <u>32.5</u> 20% of total cover: <u>13</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <u>X</u> No _____				

Remarks: (If observed, list morphological adaptations below).
Alder thicket with good herbaceous layer. Adjacent upland on west side of stream has very different herb layer.

SOIL

Sampling Point: **03-WTL-34-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)		%		
0-1	10YR	5 / 3	100					sandy clay
1-12+	10YR	5 / 1	85	7.5YR	6 / 6	15		clay

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: B-10-WTL-09

Project/Site: DC2RVA-Segment 10

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



10-B-WTL-09-wet PSS habitat in wetland
December 2015.



10-B-WTL-09-wet Alder swamp in July 2016.



10-B-WTL-09-wet July 2016 south end of wetland
across CSX ROW.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-34-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 4%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.171360 Long: -77.458894 Datum: NAD-1983

Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is the upland sample point for wetland 9. It is moderately well drained. Field Sheet 10-WTL-09-Up.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland data point is moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-34-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Prunus serotina</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2 _____				Total Number of Dominant Species Across all Strata: <u>5</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>45</u> x 4 = <u>180</u> UPL species <u>15</u> x 5 = <u>75</u> Column totals <u>60</u> (A) <u>255</u> (B) Prevalence Index = B/A = <u>4.25</u>
5 _____				
6 _____				
7 _____				
8 _____				
<u>30</u> = Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Prunus serotina</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Pinus virginiana</u>	<u>5</u>	<u>Y</u>		
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>15</u> = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Solidago spp.</u>	<u>15</u>	<u>Y</u>		
2 <u>Rubus flagellaris</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>	
3 <u>Schizachyrium scoparium</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4 <u>Rubus spp.</u>	<u>5</u>	<u>N</u>		
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>40</u> = Total Cover 50% of total cover <u>20</u> 20% of total cover: <u>8</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes _____ No <u>X</u>				

Remarks: (If observed, list morphological adaptations below).
Much of the vegetation was senesced.

SOIL

Sampling Point: **03-WTL-34-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-5	10YR	4 / 3	100					sandy clay	
5-12+	10YR	5 / 3	100					sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Soils are not reduced.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-35-wet-1
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.164545 Long: -77.457633 Datum: NAD-1983
 Soil Map Unit Name: Fluvaquents-Udifuluents complex NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Remarks: This sample point is very similar to wet-1 data point. Field Sheet 10-B-WTL-06-Wet2.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> X </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> X </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> X </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> X </u> No <u> </u> Depth (inches): <u>6 inches</u> Water table present? Yes <u> X </u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u> X </u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Very similar to data point Wet-1. High water table. Area of wetland seems to flow through gas line corridor south until it intersects with Stream 3.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-35-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Acer rubrum</u>	<u>40</u>		<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
2 <u>Liquidambar styraciflua</u>	<u>20</u>		<u>FAC</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>60</u> = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>75</u> x 3 = <u>225</u> FACU species <u>2</u> x 4 = <u>8</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>77</u> (A) <u>233</u> (B) Prevalence Index = B/A = <u>3.03</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Alnus spp.</u>	<u>10</u>	<u>Y</u>		
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Microstegium vimineum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Lonicera japonica</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>17</u> = Total Cover 50% of total cover <u>8.5</u> 20% of total cover: <u>3.4</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes _____ No <u>X</u>				

Remarks: (If observed, list morphological adaptations below).
Vegetation described is found in a narrow strip of PFO between railroad ballast and gas line corridor. Vegetation in gas line corridor is highly disturbed.

SOIL

Sampling Point: **03-WTL-35-wet-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4 / 1						sandy clay	
6-12+	10YR 6 / 1						sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Highly reduced.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-35-upl-1
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ballast hillslope Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.162467 Long: -77.456763 Datum: NAD-1983
 Soil Map Unit Name: Wehadkee silt loam, 0 to 2 percent slopes, frequently flooded NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland point is on railroad ballast. Wetland is present abutting the ballast and extends the length of the project area on this portion of the alignment that is east of the railroad tracks. Normal conditions, but not natural. Field Sheet 10-B-WTL-06-Up2.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? (includes capillary fringe) Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **None due to railroad ballast.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-35-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Juniperus virginiana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>1</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
4 _____	_____	_____	_____	Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>10</u> (A) <u>40</u> (B) Prevalence Index = B/A = <u>4.00</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>none</u>	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
11 _____	_____	_____	_____	
12 _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes _____ No <u>X</u>				

Remarks: (If observed, list morphological adaptations below).
Eastern red cedar growing on ballast, other vegetation mostly absent.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12								rock and fill from ballast

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Railroad ballast rock and black sand fill material (not possible to get core sample).**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-35-wet-2
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.164916 Long: -77.457803 Datum: NAD-1983
 Soil Map Unit Name: Fluvaquents-Udifuvents complex NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Site along gas line corridor & includes an area with large equipment traffic that appears to be clearing/bush hogging corridor. PFO on both sides of corridor with area west of corridor and east of tracks being a thin strip of PFO. PFO east of gas line corridor appears to continue to a junk yard. Large wetland area. Field Sheet 10-B-wet 06 wet 1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>4 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is a large PFO with a high water table. Area of wetland seems to flow through gas line corridor south until the gas line corridor intersects with Stream 3.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-35-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>10</u>		FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)
2 <u>Acer rubrum</u>	<u>10</u>		FAC	Total Number of Dominant Species Across all Strata: <u>3</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>25</u> x 3 = <u>75</u>	
	<u>20</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
	50% of total cover <u>10</u>	20% of total cover: <u>4</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>25</u> (A) <u>75</u> (B)	
1 <u>Alnus spp.</u>	<u>10</u>	Y		Prevalence Index = B/A = <u>3.00</u>	
2 _____				Hydrophytic Vegetation Indicators:	
3 _____				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
4 _____				<u> </u> 2 - Dominance Test is >50%	
5 _____				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____					
8 _____					
	<u>10</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>5</u>	20% of total cover: <u>2</u>		Definitions of Four Vegetation Strata:	
Herb Stratum (Plot Size: <u>5' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>Microstegium vimineum</u>	<u>5</u>	Y	FAC	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 <u>Carex spp.</u>	<u>2</u>	Y		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>7</u> = Total Cover			Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
	50% of total cover <u>3.5</u>	20% of total cover: <u>1.4</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).
Vegetation described above is found in a narrow strip of PFO between railroad and gas line corridor. Vegetation in gas line corridor is highly disturbed and appears to be Japanese stilt grass.

SOIL

Sampling Point: **03-WTL-35-wet-2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4 / 1						sandy clay	
6-12+	10YR 6 / 1						sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Wet mucky soils, highly reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-35-wet-2

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-35-wet-2 Wetland drains to this stream.



03-WTL-35-wet-2 Wetland soil.



03-WTL-35-wet-2 View of ruts in gas line ROW.



10-WTL-06-wet-01 Inundation in wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-35-upl-2
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ballast hillslope Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.165055 Long: -77.457981 Datum: NAD-1983
 Soil Map Unit Name: Fluvaquents-Udifuvents complex NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil X, or Hydrology significantly disturbed? Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Railroad ballast, sumping the edge of ballast. The wetland abuts railroad ballast. Field Sheet 10-WTL-06-Up1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Ballast is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-35-upl-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: ___ 1 -Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes _____ No <u>X</u>				
Remarks: (If observed, list morphological adaptations below). <p style="text-align: center;">None present, railroad ballast.</p>				

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12								rock and sand fill on ballast

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Railroad ballast fill material (not possible to get a core sample).**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-36-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ditch Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.16976 Long: -77.458765 Datum: NAD-1983
 Soil Map Unit Name: Dystrochrepts-Udults complex, steep NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Railroad ditch wetland that receives seep water and runoff from adjacent hillside. Field Sheet 10B wetland-08 wet#1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>8 inches</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>8 inches</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology likely runoff and seep water from hillside adjacent to rail.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-36-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2.50</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Microstegium vimineum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Carex spp.</u>	<u>10</u>	<u>N</u>		
3 <u>Scirpus cyperinus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4 <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5				
6				
7				
8				
9				
10				
11				
12				
90 = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: (If observed, list morphological adaptations below).
All herbaceous. Adjacent hillside (upland) lacks herb vegetation. Carex species was denuded making identification to species impossible.

SOIL

Sampling Point: **03-WTL-36-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12+	10YR 6 / 1	85	7.5YR 5 / 8	15			clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Very reduced soils. Typical of railside wetlands in this area.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-36-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-36-wet View of railroad ditch wetland.



03-WTL-36-wet View of wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-36-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 20%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.169744 Long: -77.458736 Datum: NAD-1983

Soil Map Unit Name: Dystrochrepts-Udults complex, steep NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Upland data point is located on hillslope parallel to railroad ballast. Field Sheet 10-B-wetland 8 upland #1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is very well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-36-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Pinus virginiana</u>	<u>10</u>	<u>Y</u>		Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2 _____				Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>5</u> (A) <u>20</u> (B) Prevalence Index = B/A = <u>4.00</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5 _____				
6 _____				
7 _____				
8 _____				
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Pinus virginiana</u>	<u>5</u>	<u>Y</u>		
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Schizachyrium scoparium</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes _____ No <u>X</u>
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Few herbaceous plants present. One fairly large Virginia pine.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-1	10YR 3 / 2						loam	lots of organics
1-12+	10YR 5 / 3						clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **No mottles and much drier than railroad ditch soils.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-37-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.168003 Long: -77.458605 Datum: NAD-1983
 Soil Map Unit Name: Fluvaquents-Udifuvents complex NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is the second wetland data point for the PFO wetland 7. Field Sheet 10-WTL-07-wet-2.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Water-Stained Leaves (B9)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>4 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area remains inundated in places and saturated to the surface for long durations.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-37-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Acer rubrum</u>	<u>40</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2 <u>Betula nigra</u>	<u>20</u>		<u>FACW</u>	
3 <u>Liquidambar styraciflua</u>	<u>10</u>		<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>0</u> (B)
4 _____				Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
5 _____				
6 _____				Prevalence Index worksheet
7 _____				
8 _____				Total % Cover of: _____ Multiply by: _____
_____ = Total Cover	<u>70</u>			OBL species <u>0</u> x 1 = <u>0</u>
50% of total cover <u>35</u>		<u>20</u>	= 20% of total cover: <u>14</u>	FACW species <u>20</u> x 2 = <u>40</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				FAC species <u>50</u> x 3 = <u>150</u>
1 <u>none</u>				FACU species <u>0</u> x 4 = <u>0</u>
2 _____				UPL species <u>0</u> x 5 = <u>0</u>
3 _____				Column totals <u>70</u> (A) <u>190</u> (B)
4 _____				
5 _____				Prevalence Index = B/A = <u>2.71</u>
6 _____				Hydrophytic Vegetation Indicators:
7 _____				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation
8 _____				<u> </u> 2 - Dominance Test is >50%
_____ = Total Cover	<u>0</u>			<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0
50% of total cover <u>0</u>		<u>20</u>	= 20% of total cover: <u>0</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Smilax spp.</u>	<u>3</u>			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2 _____				Definitions of Four Vegetation Strata:
3 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
4 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
5 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
6 _____				Woody vines - All woody vines greater than 3.28 ft in height.
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover	<u>3</u>			
50% of total cover <u>1.5</u>		<u>20</u>	= 20% of total cover: <u>0.6</u>	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover	<u>0</u>			
50% of total cover <u>0</u>		<u>20</u>	= 20% of total cover: <u>0</u>	

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **03-WTL-37-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 1	80	10YR 6 / 8	20			clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-37-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 7

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-37-wet View of PFO portion of wetland



03-WTL-37-wet View of wetland beginning to slope upward.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-37-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Liriodendron tulipifera</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>40.00%</u> (A/B)
2 <u>Fagus grandifolia</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
3 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4 <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5 _____				
6 _____				
7 _____				
8 _____				
<u>70</u> = Total Cover 50% of total cover <u>35</u> 20% of total cover: <u>14</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>45</u> x 3 = <u>135</u> FACU species <u>55</u> x 4 = <u>220</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>355</u> (B) Prevalence Index = B/A = <u>3.55</u> Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Ilex opaca</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>25</u> = Total Cover 50% of total cover <u>12.5</u> 20% of total cover: <u>5</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Sphagnum affine</u>	<u>80</u>	<u>Y</u>		
2 <u>Ilex opaca</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
3 <u>Smilax spp.</u>	<u>5</u>	<u>N</u>		
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes _____ No <u>X</u>
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).

No indicator for moss.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-1	10YR 3 / 2						loam	lots of organics
1-4	10YR 4 / 2						loam	
4-12+	10YR 5 / 3						loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Loamy with high organics**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-38-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.167025 Long: -77.458448 Datum: NAD-1983
 Soil Map Unit Name: Fluvaquents-Udifuvents complex NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland is present at the edge of railroad ballast and hillslope (i.e. railside wetland). Field Sheet 10-WTL-07 wet 1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-38-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>7</u> x 1 = <u>7</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>12</u> (A) <u>22</u> (B) Prevalence Index = B/A = <u>1.83</u> Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Microstegium vimineum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Carex spp.</u>	<u>5</u>	<u>Y</u>		
3 <u>Scirpus cyperinus</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
4 <u>Juncus effusus</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>8.5</u> 20% of total cover: <u>3.4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).
Mainly herbaceous vegetation.

SOIL

Sampling Point: **03-WTL-38-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 6 / 1	70	7.5YR 5 / 6	30			clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-38-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-38-wet View of PEM portion of wetland and
Culvert 06



03-WTL-38-wet View of wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-38-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.166630 Long: -77.458416 Datum: NAD-1983
 Soil Map Unit Name: Fluvaquents-Udifulvents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Upland point is located on hillslope parallel to railroad ballast and wetland. Field Sheet 10-WTL-07-Up1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Well drained hillslope.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-38-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Quercus virginiana</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2 <u>Pinus virginiana</u>	<u>10</u>	<u>Y</u>		Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>40</u> = Total Cover 50% of total cover <u>20</u> 20% of total cover: <u>8</u>				Prevalence Index worksheet
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____
1 <u>Pinus virginiana</u>	<u>10</u>	<u>Y</u>		OBL species <u>0</u> x 1 = <u>0</u>
2 _____				FACW species <u>0</u> x 2 = <u>0</u>
3 _____				FAC species <u>0</u> x 3 = <u>0</u>
4 _____				FACU species <u>30</u> x 4 = <u>120</u>
5 _____				UPL species <u>0</u> x 5 = <u>0</u>
6 _____				Column totals <u>30</u> (A) <u>120</u> (B)
7 _____				
8 _____				
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				Prevalence Index = B/A = <u>4.00</u>
Herb Stratum (Plot Size: <u>5' radius</u>)				Hydrophytic Vegetation Indicators:
1 <u>none</u>				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation
2 _____				<u> </u> 2 - Dominance Test is >50%
3 _____				<u> </u> 3 - Prevalence Index is ≤3.0
4 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Definitions of Four Vegetation Strata:
1 <u>none</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
2 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
3 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
4 _____				Woody vines - All woody vines greater than 3.28 ft in height.
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **03-WTL-38-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR	3 / 3					silt	lots of organics
3-12+	10YR	5 / 3					silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **0-3" layer is silt with lots of organics**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-39-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.160022 Long: -77.455803 Datum: NAD-1983
 Soil Map Unit Name: Wehadkee silt loam, 0 to 2 percent slopes, frequently flooded NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This primarily bottomland hardwood wetland is north and south of Claiborne Crossing Road. It has strong hydrology indicators and hydric soils. Field Sheet 10-WTL-04-wet.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Water Marks (B1)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Geomorphic Position (D2)
<u> </u> Sediment Deposits (B2)	<u> </u> Shallow Aquitard (D3)
<u> </u> Presence of Reduced Iron (C4)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Drift Deposits (B3)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Algal Mat or Crust (B4)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Iron Deposits (B5)	
<u> </u> Other (Explain in Remarks)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u> </u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>4 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology likely due to high water table. Claiborne Crossing Road acts as a dam separating wetland 4 & 5. No culvert is present connecting the two, but hydrologic connection is likely.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-39-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>40</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2 <u>Quercus palustris</u>	<u>30</u>		<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
3 <u>Acer rubrum</u>	<u>15</u>		<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>85</u> = Total Cover 50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Juniperus virginiana</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	OBL species <u>0</u> x 1 = <u>0</u>	
2 _____				FACW species <u>30</u> x 2 = <u>60</u>	
3 _____				FAC species <u>85</u> x 3 = <u>255</u>	
4 _____				FACU species <u>7</u> x 4 = <u>28</u>	
5 _____				UPL species <u>0</u> x 5 = <u>0</u>	
6 _____				Column totals <u>122</u> (A) <u>343</u> (B)	
7 _____				Prevalence Index = B/A = <u>2.81</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>2</u> = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Microstegium vimineum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
2 <u>Carex spp.</u>	<u>10</u>	<u>Y</u>			
3 <u>Lonicera japonica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>45</u> = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Water marks observed on the trees.

SOIL

Sampling Point: **03-WTL-39-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 1						sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input checked="" type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils appear to be strongly reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-39-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-39-wet Area south of Claiborne Crossing Road.



03-WTL-39-wet Wetland north of Claiborne Crossing Road.



03-WTL-39-wet Water marks and inundation in wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-39-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): raised terrace Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.159743 Long: -77.455579 Datum: NAD-1983
 Soil Map Unit Name: Wehadkee silt loam, 0 to 2 percent slopes, frequently flooded NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u> X </u> Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Remarks: This is the upland point for the wetland north and south of Claiborne Crossing Road. Field Sheet 10-WTL-04-Up.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland data point that is moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-39-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	50	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u>	(A)
2 <u>Acer rubrum</u>	10	N	FAC	Total Number of Dominant Species Across all Strata: <u>7</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>71.43%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>100</u> x 3 = <u>300</u>	
	60 = Total Cover			FACU species <u>20</u> x 4 = <u>80</u>	
	50% of total cover <u>30</u>			UPL species <u>0</u> x 5 = <u>0</u>	
	20% of total cover: <u>12</u>			Column totals <u>120</u> (A) <u>380</u> (B)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>3.17</u>	
1 <u>Liquidambar styraciflua</u>	15	Y	FAC	Hydrophytic Vegetation Indicators:	
2 <u>Acer rubrum</u>	15	Y	FAC	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
3 <u>Juniperus virginiana</u>	10	Y	FACU	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
4 <u>Cornus florida</u>	5	N	FACU	<u> </u> 3 - Prevalence Index is ≤3.0	
5 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
6 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7 _____				Definitions of Four Vegetation Strata:	
8 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
9 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
11 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
12 _____					
	45 = Total Cover			Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
	50% of total cover <u>22.5</u>				
	20% of total cover: <u>9</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Microstegium vimineum</u>	5	Y	FAC		
2 <u>Lonicera japonica</u>	5	Y	FACU		
3 <u>Smilax rotundifolia</u>	5	Y	FAC		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	15 = Total Cover				
	50% of total cover <u>7.5</u>				
	20% of total cover: <u>3</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	0 = Total Cover				
	50% of total cover <u>0</u>				
	20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Eastern red cedar and flowering dogwood are present in upland area and not in wetland.

SOIL

Sampling Point: **03-WTL-39-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 5 / 2						sandy clay	
3+	10YR 5 / 4						sand	coarse sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Reddish color present in B horizon. Reduction not present as seen in wetland.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-40-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.160022 Long: -77.455803 Datum: NAD-1983
 Soil Map Unit Name: Wehadkee silt loam, 0 to 2 percent slopes, frequently flooded NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This primarily bottomland hardwood wetland is north and south of Claiborne Crossing Road. It has strong hydrology indicators and hydric soils. Field Sheet 10-WTL-04-wet.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Water-Stained Leaves (B9)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>4 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology likely due to high water table. Claiborne Crossing Road acts as a dam separating wetland 4 & 5. No culvert is present connecting the two, but hydrologic connection is likely.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-40-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>40</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2 <u>Quercus palustris</u>	<u>30</u>		<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
3 <u>Acer rubrum</u>	<u>15</u>		<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>85</u> = Total Cover 50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Juniperus virginiana</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	OBL species <u>0</u> x 1 = <u>0</u>	
2 _____				FACW species <u>30</u> x 2 = <u>60</u>	
3 _____				FAC species <u>85</u> x 3 = <u>255</u>	
4 _____				FACU species <u>7</u> x 4 = <u>28</u>	
5 _____				UPL species <u>0</u> x 5 = <u>0</u>	
6 _____				Column totals <u>122</u> (A) <u>343</u> (B)	
7 _____				Prevalence Index = B/A = <u>2.81</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>2</u> = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Microstegium vimineum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Definitions of Four Vegetation Strata:	
2 <u>Carex spp.</u>	<u>10</u>	<u>Y</u>		Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 <u>Lonicera japonica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>45</u> = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Water marks observed on the trees.

SOIL

Sampling Point: **03-WTL-40-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 1						sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input checked="" type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils appear to be strongly reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-40-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-40-wet Area south of Claiborne Crossing Road.



03-WTL-40-wet Wetland north of Claiborne Crossing Road.



03-WTL-40-wet Water marks and inundation in wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-40-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): raised terrace Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.159743 Long: -77.455579 Datum: NAD-1983
 Soil Map Unit Name: Wehadkee silt loam, 0 to 2 percent slopes, frequently flooded NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the upland point for the wetland north and south of Claiborne Crossing Road. Field Sheet 10-WTL-04-Up.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? (includes capillary fringe) Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland data point that is moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-40-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	50	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u>	(A)
2 <u>Acer rubrum</u>	10	N	FAC	Total Number of Dominant Species Across all Strata: <u>7</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>71.43%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>100</u> x 3 = <u>300</u>	
	60 = Total Cover			FACU species <u>20</u> x 4 = <u>80</u>	
	50% of total cover <u>30</u>	20% of total cover: <u>12</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>120</u> (A) <u>380</u> (B)	
1 <u>Liquidambar styraciflua</u>	15	Y	FAC	Prevalence Index = B/A = <u>3.17</u>	
2 <u>Acer rubrum</u>	15	Y	FAC	Hydrophytic Vegetation Indicators:	
3 <u>Juniperus virginiana</u>	10	Y	FACU	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
4 <u>Cornus florida</u>	5	N	FACU	<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
5 _____				<u>3</u> - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8 _____				Definitions of Four Vegetation Strata:	
	45 = Total Cover			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
	50% of total cover <u>22.5</u>	20% of total cover: <u>9</u>		Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
1 <u>Microstegium vimineum</u>	5	Y	FAC	Woody vines - All woody vines greater than 3.28 ft in height.	
2 <u>Lonicera japonica</u>	5	Y	FACU	Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3 <u>Smilax rotundifolia</u>	5	Y	FAC		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	15 = Total Cover				
	50% of total cover <u>7.5</u>	20% of total cover: <u>3</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	0 = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).
Eastern red cedar and flowering dogwood are present in upland area and not in wetland.

SOIL

Sampling Point: **03-WTL-40-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 5 / 2						sandy clay	
3+	10YR 5 / 4						sand	coarse sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Reddish color present in B horizon. Reduction not present as seen in wetland.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-41-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.157479 Long: -77.45317 Datum: NAD-1983

Soil Map Unit Name: Chastain silt loam, 0 to 2 percent slopes, ponded NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: No access to the area due to landowner access denial. Wetland associated with Stream #2 and Culvert #2. Field Sheet 10-B-wetland-03 wet1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>12</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology linked to Stream 2. Wetland acts as floodplain. Beaver activity likely present, but can't confirm due to access issue.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-41-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Betula nigra</u>	<u>20</u>		<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2 <u>Acer rubrum</u>	<u>20</u>		<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
3 <u>Quercus palustris</u>	<u>5</u>		<u>FACW</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>55</u> x 2 = <u>110</u> FAC species <u>110</u> x 3 = <u>330</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>165</u> (A) <u>440</u> (B) Prevalence Index = B/A = <u>2.67</u>	
5 _____					
6 _____					
7 _____					
8 _____					
<u>45</u> = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>Acer rubrum</u>	<u>70</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Betula nigra</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>		
3 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>110</u> = Total Cover 50% of total cover <u>55</u> 20% of total cover: <u>22</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 _____				Hydrophytic vegetation present? Yes <u>X</u> No _____	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Actual plot sample was not possible due to property access issues.

SOIL

Sampling Point: **03-WTL-41-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks: **Unknown due to property access issues, but presumed to be hydric based upon other local wetlands and professional judgment.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-41-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	2	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 12

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-41-wet View of wetland



03-WTL-41-wet Culvert under railroad for stream 2.



03-WTL-41-wet View of inundated portion of wetland



03-WTL-41-wet View of wetland

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-41-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): raised terrace Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.157479 Long: -77.452925 Datum: NAD-1983
 Soil Map Unit Name: Chastain silt loam, 0 to 2 percent slopes, ponded NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? Are "normal circumstances" present? Yes No
 Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: No property access. Vegetation seen is general and not plot specific. Delineation boundary at white pines (upland) and river birch (wetland). Greenbriar very dense (unlike wetland) and honeysuckle present. Field Sheet 10-B-WTL-03 upland1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **No saturation or inundation observed in upland data point. Because of access no soil core could be taken.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-41-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Pinus strobus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)
4 _____	_____	_____	_____	Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>60</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>3.33</u>
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
11 _____	_____	_____	_____	
12 _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Smilax rotundifolia</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic vegetation present? Yes _____ No <u>X</u>
2 <u>Lonicera japonica</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>50</u> = Total Cover 50% of total cover <u>25</u> 20% of total cover: <u>10</u>				

Remarks: (If observed, list morphological adaptations below).
No plot data because of access issue.

SOIL

Sampling Point: **03-WTL-41-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **No core taken due to property access issue.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-42-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.153916 Long: -77.449299 Datum: NAD-1983
 Soil Map Unit Name: Altavista fine sandy loam, 2 to 6 percent slopes, very rarely flooded NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This cutover PEM wetland was not directly accessible, because the landowner denied access to the property. The data sheet was completed from the CSX ballast using the visible evidence of hydrology and plants. Based on the evidence of hydrology and experience with nearby wetlands, it is assumed that the soils would be hydric. Field Sheet 10-B-WTL-02 wet.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>3 inches</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The complete extent of the hydrology indicators is not know throughout the wetland due to access issues.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-42-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Quercus palustris</u>	<u>5</u>		FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Scirpus cyperinus</u>	<u>95</u>	<u>Y</u>	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 <u>Carex spp.</u>	<u>5</u>	<u>N</u>		
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>100</u> = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____

Remarks: (If observed, list morphological adaptations below).
Other plants present include black willow (*Salix nigra*) and Bidens spp.

SOIL

Sampling Point: **03-WTL-42-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Unknown due to access issues, but presumed to be hydric based on evidence and experience from nearby wetlands.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-42-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-42-wet View of wetland



03-WTL-42-wet Cutover timber in wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-42-upl
 Investigator(s): D.Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.153902 Long: -77.449211 Datum: NAD-1983
 Soil Map Unit Name: Altavista fine sandy loam, 2 to 6 percent slopes, very rarely flooded NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u> X </u> Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Remarks: Upland consists of dense young vines, smilax, and sweetgum. No access to upland area. No other data collected. Wetland delineated by presence of wool grass, bidens spp, and carex spp. Field Sheet 10-B-WTL2-upl.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **No access to Beasley property, but the upland sample point appeared to be well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-42-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2 _____				Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>25</u> (A) <u>75</u> (B) Prevalence Index = B/A = <u>3.00</u>	
5 _____					
6 _____					
7 _____					
8 _____					
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
1 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
_____ = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
1 <u>Andropogon virginicus</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
_____ = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic vegetation present? Yes <u>X</u> No _____	
1 <u>Smilax rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
_____ = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>					

Remarks: (If observed, list morphological adaptations below).
No access to property.

SOIL

Sampling Point: **03-WTL-42-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **No access to property. Well drained soils are assumed to be upland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-01-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1				
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1				
2				
3				
4				
5				
6				
7				
8				
2 = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
97 = Total Cover 50% of total cover <u>48.5</u> 20% of total cover: <u>19.4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1				
2				
3				
4				
5				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across all Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column totals _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No _____

Royal fern only on the wetland margin near the ballast, toe of slope. Area is in gas line ROW and maintained, there are no trees or large shrubs.

SOIL

Sampling Point: **03-WTL-01-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 4 / 2		95	10YR 5 6	5			sandy loam	
4-12	10YR 5 / 1		95	7.5YR 6 8	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No _____

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-01-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-01-wet

Wetland vegetation.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-01-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Railroad ballast Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.330093 Long: -77.4491934 Datum: NAD-1983
 Soil Map Unit Name: Alluvial land, sandy and gravelly NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Upland pont near the toe of the ballast. Field Sheet 06WTL11-Up01 Team 2.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Railroad ballast area.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-01-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Quercus phellos</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u>	(A)
2 <u>Betula nigra</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>6</u>	(B)
3 <u>Liriodendron tulipifera</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u>	(A/B)
4 <u>Pinus virginiana</u>	<u>4</u>	<u>N</u>			
5 <u>Liquidambar styraciflua</u>	<u>2</u>		<u>FAC</u>		
6					
7					
8					
<u>86</u> = Total Cover				Prevalence Index worksheet	
50% of total cover <u>43</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>17.2</u>				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>77</u> x 2 = <u>154</u>	
				FAC species <u>12</u> x 3 = <u>36</u>	
				FACU species <u>15</u> x 4 = <u>60</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>104</u> (A) <u>250</u> (B)	
				Prevalence Index = B/A = <u>2.40</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
2				<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
3				<input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0	
4				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5					
6					
7					
8					
<u>10</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>5</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>2</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Osmunda regalis</u>	<u>15</u>	<u>Y</u>			
2 <u>Quercus phellos</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>		
3 <u>Laportea canadensis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>		
4					
5					
6					
7					
8					
9					
10					
11					
12					
<u>22</u> = Total Cover					
50% of total cover <u>11</u>					
20% of total cover: <u>4.4</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Lonicera japonica</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>		
2					
3					
4					
5					
<u>5</u> = Total Cover					
50% of total cover <u>2.5</u>					
20% of total cover: <u>1</u>					

Royal fern near the wetland margin.

SOIL

Sampling Point: **03-WTL-01-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 3 / 1	100					sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Upland soil sample from ballast soils (likely fill material)**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 2 City/County: Stafford County Sampling Date: August 10, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-02-wet
 Investigator(s): L. Postaski & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 10%
 Subregion (LRR or MLRA): LRR: S, MLRA: 149A Lat: 38.329665 Long: -77.449782 Datum: NAD-1983
 Soil Map Unit Name: Alluvial land, sandy and gravelly NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
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Remarks: **Sparingly vegetated area. Tire ruts are present. This wetland is located north of Harrell Road, approximately 80 feet west of the railway.**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u>X</u> Sparingly Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u>X</u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-02-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	60	Y	FAC
2			
3			
4			
5			
6			
7			
8			

60 = Total Cover
 50% of total cover: **30** 20% of total cover: **12**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: **0** 20% of total cover: **0**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Leersia oryzoides	50	Y	OBL
2 Matteuccia struthiopteris	5	N	FACW
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

55 = Total Cover
 50% of total cover: **27.5** 20% of total cover: **11**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Smilax glauca	15	Y	FAC
2			
3			
4			
5			

15 = Total Cover
 50% of total cover: **7.5** 20% of total cover: **3**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across all Strata: **3** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **100.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 50	x 1 = 50
FACW species 5	x 2 = 10
FAC species 75	x 3 = 225
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column totals 130 (A)	285 (B)

Prevalence Index = B/A = **2.19**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR	3 / 2	100					Clay loam	Duff layer present
2-12	10YR	5 / 2	90	10YR	5 / 6	10		Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **With a value of 4 or more and a chroma of 2 or less, soils are depleted 2-12 inches below surface.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-02-wet

Project/Site: DC2RVA-Area 2

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-02-wet Sparsely vegetated understory.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford County Sampling Date: August 10, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-02-upl
 Investigator(s): L. Postaski & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.329742 Long: -77.449876 Datum: NAD-1983
 Soil Map Unit Name: Alluvial land, sandy and gravelly NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Sparsely vegetated area. Potentially an old road bed. Tire ruts present.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is very well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-02-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	90	Y	FAC
2			
3			
4			
5			
6			
7			
8			

90 = Total Cover
 50% of total cover: **45** 20% of total cover: **18**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: **0** 20% of total cover: **0**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	10	Y	
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

10 = Total Cover
 50% of total cover: **5** 20% of total cover: **2**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Smilax glauca			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: **0** 20% of total cover: **0**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across all Strata: **2** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **50.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 90	x 3 = 270
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column totals 90 (A)	270 (B)

Prevalence Index = B/A = **3.00**

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Herbaceous layer absent.

SOIL

Sampling Point: 03-WTL-02-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	5.0 / 4	100				Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-03-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): stream terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.329177 Long: -77.449259 Datum: NAD-1983
 Soil Map Unit Name: Alluvial land, sandy and gravelly NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Very small herbaceous wetland north of Harrel Road. Field Sheet 06WTL10-wet01 Team 2.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): >2 inches Water table present? Yes <u>X</u> No <u> </u> Depth (inches): Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Wetland is primarily saturated, but does have small pockets of inundation.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-03-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Murdannia keisak</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Sagittaria latifolia</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
3 <u>Leersia oryzoides</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Dense stand of *Murdannia keisak*.

SOIL

Sampling Point: **03-WTL-03-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 1	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Although the soil value and chroma are indicative of redox dark surface, there is an apparent lack of redoximorphic features. It is likely that the dark organic matter within the soil is masking some or all of the concentrations that may be present.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-03-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-03-wet Soil core.



03-WTL-03-wet Very small herbaceous wetland.



03-WTL-03-wet Herbaceous wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-03-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.329205 Long: -77.44927 Datum: NAD-1983
 Soil Map Unit Name: Alluvial land, sandy and gravelly NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the upland point for wetland 10. Field Sheet 06WTL10-Up01 Team 2.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-03-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Liriodendron tulipifera</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>7</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>42.86%</u> (A/B)	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>15</u> = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>35</u> (A) <u>120</u> (B) Prevalence Index = B/A = <u>3.43</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>none</u>					Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Acer rubrum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		Hydrophytic vegetation present? Yes _____ No <u>X</u>
2 <u>Lonicera spp.</u>	<u>5</u>	<u>Y</u>			
3 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
4 <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>		
5 <u>Dichanthelium clandestinum</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>		
<u>Aster spp.</u>	<u>5</u>	<u>Y</u>			
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>30</u> = Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 4 / 4	100					sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford County Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-04-wet
 Investigator(s): L. Postaski & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of ballast/road Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.325741 Long: -77.450569 Datum: NAD-1983
 Soil Map Unit Name: Alluvial land, sandy and gravelly NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Depression inside treeline at edge of gravel road along ballast.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u>X</u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2"</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-04-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	30	Y	FAC
2 Betula nigra	20	Y	FACW
3			
4			
5			
6			
7			
8			

50% of total cover: **25** 20% of total cover: **10**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

50% of total cover: **0** 20% of total cover: **0**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Leersia oryzoides	60	Y	OBL
2 Sagittaria latifolia	10	N	OBL
3 Dichanthelium clandestinum	10	N	FACW
4			
5			
6			
7			
8			
9			
10			
11			
12			

50% of total cover: **40** 20% of total cover: **16**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Smilax glauca	10	Y	FAC
2			
3			
4			
5			

50% of total cover: **5** 20% of total cover: **2**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across all Strata: **4** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **100.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 70	x 1 = 70
FACW species 30	x 2 = 60
FAC species 40	x 3 = 120
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column totals 140 (A)	250 (B)

Prevalence Index = B/A = **1.79**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Herbicides were sprayed along ballast; sparse vegetation present.

SOIL

Sampling Point: 03-WTL-04-wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR	4.0 / 1	90	10YR 5 / 8	10	C	M	Sandy loam	
3-12	10YR	5 / 2	100					Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **With a value of 4 or more and a chroma of 2 or less, soils are depleted.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-04-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-04-wet

Wetland vegetation.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford County Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-04-upl
 Investigator(s): L. Postaski & R. Mangum Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Steep ballast slope Local relief (concave, convex, none): Convex Slope (%): 60%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.325694 Long: -77.450492 Datum: NAD-1983
 Soil Map Unit Name: Grist Mill sandy loam, 0 to 25 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Steep rise to railroad tracks is heavily vegetated.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Upland point is very well drained.	

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-04-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Liquidambar styraciflua	5	Y	FAC
2			
3			
4			
5			
6			
7			
8			

5 = Total Cover
 50% of total cover: 2.5 20% of total cover: 1

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Microstegium vimineum	70	Y	FAC
2 Ambrosia artemisiifolia	20	Y	FACU
3 Trifolium repens	5	N	FACU
4			
5			
6			
7			
8			
9			
10			
11			
12			

95 = Total Cover
 50% of total cover: 47.5 20% of total cover: 19

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>75</u>	x 3 = <u>225</u>
FACU species <u>25</u>	x 4 = <u>100</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>100</u> (A)	<u>325</u> (B)

Prevalence Index = B/A = 3.25

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation
 X 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 03-WTL-04-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 5.0 / 4	100					Silt loam	Gravel inclusion

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-05-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Nyssa sylvatica</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u>	(A)
2 <u>Liquidambar styraciflua</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>6</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>100</u> x 1 = <u>100</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>120</u> x 3 = <u>360</u>	
	<u>60</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
	50% of total cover <u>30</u>			UPL species <u>0</u> x 5 = <u>0</u>	
	20% of total cover: <u>12</u>			Column totals <u>220</u> (A) <u>460</u> (B)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>2.09</u>	
1 <u>Nyssa sylvatica</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators:	
2 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
3 _____				<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
4 _____				<input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0	
5 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
6 _____					
7 _____					
8 _____					
	<u>60</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>30</u>			Definitions of Four Vegetation Strata:	
	20% of total cover: <u>12</u>			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
1 <u>Ludwigia palustris</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2 <u>Scirpus cyperinus</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
3 <u>Leersia oryzoides</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>100</u> = Total Cover				
	50% of total cover <u>50</u>				
	20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>				
	20% of total cover: <u>0</u>				

Black willow and sweet gum dominant canopy at data point. Red maple, willow oak, and cottonwood are also present.

SOIL

Sampling Point: **03-WTL-05-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 1	100					silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **The soil appears to be affected by industrial area runoff.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-05-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-05-wet Typical habitat in wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford County Sampling Date: October 15, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-05-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.320268 Long: -77.449209 Datum: NAD-1983
 Soil Map Unit Name: Alluvial land, sandy and gravelly NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil X, or Hydrology significantly disturbed? Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is the upland data sheet for wetland 9. Field Sheet 06WTL9-Up01 Team 2.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Based at foundation of industrial building.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-05-upl**

Tree Stratum	(Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1	<u>none</u>				
2					
3					
4					
5					
6					
7					
8					
		<u>0</u> = Total Cover			
		50% of total cover <u>0</u>	20% of total cover: <u>0</u>		
Sapling/Shrub Stratum	(Plot Size: <u>15' radius</u>)				
1	<u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2					
3					
4					
5					
6					
7					
8					
		<u>5</u> = Total Cover			
		50% of total cover <u>2.5</u>	20% of total cover: <u>1</u>		
Herb Stratum	(Plot Size: <u>5' radius</u>)				
1	<u>Lespedeza cuneata</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Rubus spp.</u>	<u>15</u>	<u>Y</u>		
3	<u>Crypsis schoenoides</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4					
5					
6					
7					
8					
9					
10					
11					
12					
		<u>75</u> = Total Cover			
		50% of total cover <u>37.5</u>	20% of total cover: <u>15</u>		
Woody Vine Stratum	(Plot Size: <u>30' radius</u>)				
1	<u>none</u>				
2					
3					
4					
5					
		<u>0</u> = Total Cover			
		50% of total cover <u>0</u>	20% of total cover: <u>0</u>		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>60</u>	x 4 = <u>240</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>65</u> (A)	<u>255</u> (B)

Prevalence Index = B/A = 3.92

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Plot dominated by sericea lespedeza.

SOIL

Sampling Point: **03-WTL-05-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
								Rocky loam - No color.

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Gravel associated with rail spur is present until edge of wetland, total soil auger refusal.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford Sampling Date: November 4, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-06-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): side channel Local relief (concave, convex, none): depression Slope (%): 1
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.308191 Long: -77.446245 Datum: NAD-1983
 Soil Map Unit Name: Congaree loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a side channel wetland/depression that drains into Stream 1. It is primarily forested on the margins of the water and herbaceous in the gas ROW. Field Sheet: 07AWTL01.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u>X</u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>up to 12</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? (includes capillary fringe) Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u>	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **It is clear this area remains inundated or saturated for long periods.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-06-wet**

Tree Stratum (Plot Size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Betula nigra	33	Y	FACW
2 Quercus phellos	10	N	FACW
3 Liquidambar styraciflua	5	N	FAC
4 Acer rubrum	5	N	FAC
5 Liriodendron tulipifera	5	N	FACU
6			
7			
8			

58 = Total Cover
 50% of total cover: **29** 20% of total cover: **11.6**

Sapling/Shrub Stratum (Plot Size: 15' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Betula nigra	15	Y	FACW
2 Salix nigra	10	Y	OBL
3 Alnus serrulata	5	N	FACW
4 Liquidambar styraciflua	2	N	FAC
5			
6			
7			
8			

32 = Total Cover
 50% of total cover: **16** 20% of total cover: **6.4**

Herb Stratum (Plot Size: 5' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Andropogon virginicus	12	Y	FAC
2 Leersia oryzoides	7	Y	OBL
3 Alnus serrulata	5	Y	FACW
4 Euthamia graminifolia	5	Y	FAC
5 Dichanthelium clandestinum	4	N	FACW
6 Carex spp.	3	N	
7 Symphotrichum lateriflorum	3	N	FAC
8 Eupatorium perfoliatum	2	N	FACW
9 Panicum anceps	1	N	
10 Lespedeza cuneata	1	N	FACU
11 Dichanthelium dichotomum	1	N	FAC
12			

44 = Total Cover
 50% of total cover: **22** 20% of total cover: **8.8**

Woody Vine Stratum (Plot Size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Smilax rotundifolia	1		FAC
2 Lonicera japonica	1		FACU
3			
4			
5			

2 = Total Cover
 50% of total cover: **1** 20% of total cover: **0.4**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **7** (A)

Total Number of Dominant Species Across all Strata: **7** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **100.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 17	x 1 = 17
FACW species 74	x 2 = 148
FAC species 34	x 3 = 102
FACU species 7	x 4 = 28
UPL species 0	x 5 = 0
Column totals 132 (A)	295 (B)

Prevalence Index = B/A = **2.23**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Sample point at edge of pipeline ROW and forest.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-4	10YR 5 / 2	90	10YR 5 / 6	10			sandy loam	lots of organic matter
4-12	10YR 5 / 1	95	10YR 6 / 6	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Lots of organic matter in top 2 inches. Area somewhat disturbed because of gas ROW maintenance.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-06-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-06-wet View of wetland ponding



03-WTL-06-wet View of ponding in wetland



03-WTL-06-wet Inundated portion of wetland.



03-WTL-06-wet View of wetland



03-WTL-06-wet View of soil core sample.



03-WTL-06-wet View of upland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA - Area 3 City/County: Stafford County Sampling Date: November 4, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-06-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 4
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.308381 Long: -77.446228 Datum: NAD-1983
 Soil Map Unit Name: Congaree loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation X, Soil X, or Hydrology significantly disturbed? Yes Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the upland point in the gas ROW east of Wetland 1. It's well drained. Field Sheet: 07AWTL01, upland.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is sloping toward wetland and well drianed.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-06-upl**

Tree Stratum (Plot Size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Pinus virginiana	12	Y	
2 Quercus coccinea	2	N	
3 Liquidambar styraciflua	2	N	FAC
4 Juniperus virginiana	2	N	FACU
5			
6			
7			
8			

18 = Total Cover
 50% of total cover: **9** 20% of total cover: **3.6**

Sapling/Shrub Stratum (Plot Size: 15' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Betula nigra	2		FACW
2			
3			
4			
5			
6			
7			
8			

2 = Total Cover
 50% of total cover: **1** 20% of total cover: **0.4**

Herb Stratum (Plot Size: 5' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Andropogon virginicus	50	Y	FAC
2 Betula nigra	5	N	FACW
3 Rhexia virginica	5	N	FACW
4 Carex umbellata	2	N	
5 Dichanthelium scoparium	1	N	FACW
6 Ilex opaca	1	N	FAC
7 Rubus pensilvanicus	1	N	FAC
8			
9			
10			
11			
12			

65 = Total Cover
 50% of total cover: **32.5** 20% of total cover: **13**

Woody Vine Stratum (Plot Size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Smilax glauca	2		FAC
2 Campsis radicans	1		FAC
3			
4			
5			

3 = Total Cover
 50% of total cover: **1.5** 20% of total cover: **0.6**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across all Strata: **2** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **50.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 13	x 2 = 26
FAC species 57	x 3 = 171
FACU species 2	x 4 = 8
UPL species 0	x 5 = 0
Column totals 72 (A)	205 (B)

Prevalence Index = B/A = **2.85**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Sample point in managed pipeline ROW.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 6 / 4	95	10YR 5 / 6	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: rocky soil
 Depth (inches): 6

Hydric soil present? Yes No

Remarks: **Could not get to soils below 6 inches (too rocky). Soils in gas ROW appear to be severely disturbed, but well drained at the upland point.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford Sampling Date: August 11, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-07-wet
 Investigator(s): L. Postaski & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of ballast Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.308124 Long: -77.446779 Datum: NAD-1983
 Soil Map Unit Name: _____ NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
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Remarks: **This wetland is located in an old powerline right of way. It is in a small depression between the railroad ballast and a ridge.**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input checked="" type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No _____ Depth (inches): <u>0-4"</u> Water table present? Yes <u>X</u> No _____ Depth (inches): _____ Saturation present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Considering its size and location in an old powerline right of way, this is a low functioning wetland. There is minimal habitat present within the wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-07-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	Impatiens capensis	20	Yes FACW
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

20 = Total Cover
 50% of total cover: 10 20% of total cover: 4

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>20</u>	x 2 = <u>40</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>20</u>	(A) <u>40</u> (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Duckweed is present on the water's surface. There is algae present in the wetland.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 3 / 2	100					Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Although the soil value and chroma are indicative of redox dark surface/depleted dark surface, there is an apparent lack of redoximorphic features, likely due to ground disturbance from pipeline ROW maintenance. The soils appear to be reducing, however.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-07-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-07-wet

Wetland vegetation and old powerline ROW.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford Sampling Date: August 11, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-07-upl
 Investigator(s): L. Postaski & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 35%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.308186 Long: -77.446697 Datum: NAD-1983
 Soil Map Unit Name: Wickham fine sandy loam, 2 to 6 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u> Hydric Soil Present? Yes <u> </u> No <u> X </u> Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Remarks: The upland is close to the railroad ballast.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The railroad ballast is moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-07-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Foxtail	100	Y	
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

100 = Total Cover

50% of total cover: 50 20% of total cover: 20

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>0</u>	(A) <u>0</u> (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 03-WTL-07-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	3 / 4	100					Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford Sampling Date: August 11, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-08-wet
 Investigator(s): L. Postaski & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of ballast Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.302536 Long: -77.447857 Datum: NAD-1983
 Soil Map Unit Name: Cartecay fine sandy loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0-4"</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? (includes capillary fringe) Yes <u>X</u> No <u> </u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This wetland is in a pipeline right of way. This is a low functioning wetland with minimal habitat and diversity. It appears to be mowed regularly.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-08-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Leersia oryzoides	40	Y	OBL
2 Microstegium vimineum	30	Y	FAC
3 Eleocharis palustris	10	N	OBL
4 Sagittaria latifolia	5	N	OBL
5			
6			
7			
8			
9			
10			
11			
12			

85 = Total Cover
 50% of total cover: **42.5** 20% of total cover: **17**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>55</u>	x 1 = <u>55</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>85</u>	(A) <u>145</u> (B)

Prevalence Index = B/A = 1.71

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
No canopy present.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	3.0 / 2	100				Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Although the soil value and chroma are indicative of redox dark surface/depleted dark surface, there is an apparent lack of redoximorphic features, likely due to ground disturbance from pipeline ROW maintenance.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-08-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-08-wet Wetland vegetation and saturation.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Stafford Sampling Date: August 11, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-08-upl
 Investigator(s): L. Postaski & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.302477 Long: -77.447849 Datum: NAD-1983
 Soil Map Unit Name: Cartecay fine sandy loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Steep rise to railroad tracks is heavily vegetated.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is very well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-08-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>
2 <u>Liquidambar styraciflua</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>
3 <u>Plantanus occidentalis</u>	<u>10</u>	<u>N</u>	
4			
5			
6			
7			
8			

90 = Total Cover
 50% of total cover: 45 20% of total cover: 18

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Acer rubrum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>
2			
3			
4			
5			
6			
7			
8			

40 = Total Cover
 50% of total cover: 20 20% of total cover: 8

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Toxicodendron radicans</u>	<u>10</u>		
2			
3			
4			
5			

10 = Total Cover
 50% of total cover: 5 20% of total cover: 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>120</u>	x 3 = <u>360</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>120</u> (A)	<u>360</u> (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation
 X 2 - Dominance Test is >50%
 X 3 - Prevalence Index is ≤3.0¹
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No

Remarks: (If observed, list morphological adaptations below).
Spars herbaceous layer. A lot of leaf litter present.

SOIL

Sampling Point: 03-WTL-08-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR	3.0 / 3	100				Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: City of Fredericksburg Sampling Date: September 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-09-wet-1
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.27856 Long: -77.460064 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This bottomland hardwood forest point is adjacent to a small intermittent stream. Field Sheet wet-02-08.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input checked="" type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This floodplain bottomland hardwood forest remains saturated for a long duration during the growing season. Shallow root systems are present on downed trees.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-09-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>10</u> (A)	
2 <u>Quercus phellos</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>13</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>76.92%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>85</u> = Total Cover				Prevalence Index worksheet	
50% of total cover <u>42.5</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>17</u>				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>31</u> x 2 = <u>62</u>	
				FAC species <u>70</u> x 3 = <u>210</u>	
				FACU species <u>1</u> x 4 = <u>4</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>102</u> (A) <u>276</u> (B)	
				Prevalence Index = B/A = <u>2.71</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Vaccinium corymbosum</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Vaccinium formosum</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3 _____				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
4 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
<u>7</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>3.5</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>1.4</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Liquidambar styraciflua</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Acer rubrum</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>		
3 <u>Mitchella repens</u>	<u>1</u>	<u>Y</u>	<u>FACU</u>		
4 <u>Chimaphila maculata</u>	<u>1</u>	<u>Y</u>	<u>NA</u>		
5 <u>Nyssa sylvatica</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>		
6 <u>Smilax rotundifolia</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>		
7 <u>Carex albicans</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>		
8 <u>Chasmanthium laxum</u>	<u>1</u>	<u>Y</u>	<u>FACW</u>		
9 <u>Carex sp.</u>	<u>1</u>	<u>Y</u>	<u>NA</u>		
10 _____					
11 _____					
12 _____					
<u>11</u> = Total Cover					
50% of total cover <u>5.5</u>					
20% of total cover: <u>2.2</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
<u>1</u> = Total Cover				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
50% of total cover <u>0.5</u>					
20% of total cover: <u>0.2</u>					

Remarks: (If observed, list morphological adaptations below).
Bottomland hardwood forest, red maple and willow oak dominant.

SOIL

Sampling Point: **03-WTL-09-wet-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 4 / 2		90	7.5YR 5 / 8	10	C	M		sandy silt loam
3-15	10YR 5 / 2		70	7.5YR 5 / 8	30	C	M		sandy silt loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-09-wet-1

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 9

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-09-wet-1 Non-vegetated swale in wetland.



03-WTL-09-wet-1 View of PFO portion of wetland



03-WTL-09-wet-1 View of PFO portion of wetland



03-WTL-09-wet-1 View of PFO portion of wetland



03-WTL-09-wet-1 View of PFO portion of wetland



03-WTL-09-wet-1 Shallow root system in fallen tree.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: City of Fredericksburg Sampling Date: September 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-09-wet-2
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Stream terrace/floodplain Local relief (concave, convex, none): convex Slope (%): 0-3%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.278694 Long: -77.4603 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation X, Soil , or Hydrology significantly disturbed? Yes Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: The conditions are generally dry. This is the herbaceous sample point between the ballast and forest edge. Field Sheet WTL0108 wet2, WTL-02-08-WET. Note: lat/long derived from Google Earth.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u>X</u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u>X</u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u>X</u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Floodplain adjacent to perennial stream. Receives infrequent overflow flooding.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-09-wet-2**

Tree Stratum (Plot Size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover				
50% of total cover <u>0</u>				20% of total cover: <u>0</u>
Sapling/Shrub Stratum (Plot Size: _____)				
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover				
50% of total cover <u>0</u>				20% of total cover: <u>0</u>
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Chasmanthium laxum</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Dichantheium dichotomum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Dichantheium scoparium</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4 <u>Euthamia graminifolia</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
5 <u>Scutellaria integrifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
6 <u>Juncus effusus</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
7 <u>Vernonia noveboracensis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
8 <u>Quercus phellos</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
9 <u>Solidago rugosa</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
10 <u>Agalinis purpurea</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
11 <u>Bidens aristosa</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
12 _____				
_____ = Total Cover				
50% of total cover <u>40.5</u>				20% of total cover: <u>16.2</u>
Woody Vine Stratum (Plot Size: _____)				
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover				
50% of total cover <u>0</u>				20% of total cover: <u>0</u>

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>1</u>	x 1 = <u>1</u>
FACW species <u>44</u>	x 2 = <u>88</u>
FAC species <u>36</u>	x 3 = <u>108</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>81</u> (A)	<u>197</u> (B)

Prevalence Index = B/A = 2.43

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

Wet meadow between ballast and forest.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 5 / 1	90					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-09-wet-2

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-09-wet-2 View of PEM portion of wetland



03-WTL-09-wet-2 View of PEM portion of wetland



03-WTL-09-wet-2 View of PEM portion of wetland



03-WTL-09-wet-2 View of PEM portion of wetland

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: City of Fredericksburg Sampling Date: September 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-09-upl
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): RR ballast Local relief (concave, convex, none): Convex Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.27869 Long: -77.46042 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: The conditions are generally dry. This upland point is located along the railroad ballast.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches):	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The upland point is located along the railroad ballast, adjacent to a railroad ditch.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-09-upl**

Tree Stratum (Plot Size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)	
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet	
50% of total cover <u>0</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>0</u>				OBL species <u>0</u> x 1 = <u>0</u>	
_____ = Total Cover				FACW species <u>0</u> x 2 = <u>0</u>	
50% of total cover <u>0</u>				FAC species <u>0</u> x 3 = <u>0</u>	
20% of total cover: <u>0</u>				FACU species <u>5</u> x 4 = <u>20</u>	
_____ = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>	
50% of total cover <u>0</u>				Column totals <u>5</u> (A) <u>20</u> (B)	
20% of total cover: <u>0</u>				Prevalence Index = B/A = <u>4.00</u>	
_____ = Total Cover				Hydrophytic Vegetation Indicators:	
50% of total cover <u>0</u>				___ 1 -Rapid Test for Hydrophytic Vegetation	
20% of total cover: <u>0</u>				___ 2 - Dominance Test is >50%	
_____ = Total Cover				___ 3 - Prevalence Index is ≤3.0	
50% of total cover <u>0</u>				___ Problematic Hydrophytic Vegetation ¹ (Explain)	
20% of total cover: <u>0</u>					
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>0</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>0</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
_____ = Total Cover				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
50% of total cover <u>0</u>				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
20% of total cover: <u>0</u>				Woody vines - All woody vines greater than 3.28 ft in height.	
_____ = Total Cover					
50% of total cover <u>0</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
20% of total cover: <u>0</u>					
_____ = Total Cover					
50% of total cover <u>0</u>					
20% of total cover: <u>0</u>					
_____ = Total Cover					

Remarks: (If observed, list morphological adaptations below).

Minimal vegetation present.

SOIL

Sampling Point: **03-WTL-09-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12								Gravel/restrictive layer

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: Gravel/Ballast rock
 Depth (inches): At surface Hydric soil present? Yes No

Remarks: **A gravel/rock restrictive layer is present along the ballast.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: City of Fredericksburg Sampling Date: September 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-10-wet
 Investigator(s): L. Eggering, W. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): slight hillslope Local relief (concave, convex, none): slightly concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.275841 Long: -77.459283 Datum: NAD-1983
 Soil Map Unit Name: Wickham loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland has been previously flagged by others. Field Sheet WTL0108 wet1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Although this wetland was very dry, there are strong hydrology indicators.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-10-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u> (A/B)
2 <u>Liriodendron tulipifera</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>75</u> = Total Cover 50% of total cover <u>37.5</u> 20% of total cover: <u>15</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>1</u> x 1 = <u>1</u> FACW species <u>77</u> x 2 = <u>154</u> FAC species <u>91</u> x 3 = <u>273</u> FACU species <u>22</u> x 4 = <u>88</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>191</u> (A) <u>516</u> (B) Prevalence Index = B/A = <u>2.70</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Magnolia virginiana</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Vaccinium corymbosum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>52</u> = Total Cover 50% of total cover <u>26</u> 20% of total cover: <u>10.4</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Liquidambar styraciflua</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Carex atlantica</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Lonicera japonica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4 <u>Dichanthelium dichotomum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5 <u>Prunus serotina</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
6 <u>Acer rubrum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
7 <u>Lycopus virginicus</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>64</u> = Total Cover 50% of total cover <u>32</u> 20% of total cover: <u>12.8</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>< 5%</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (If observed, list morphological adaptations below).				

Bottomland hardwood forest with sweetbay dominated understory.

SOIL

Sampling Point: **03-WTL-10-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)		%	Type ¹		
0-2								Duff / leaf litter / no color
2-12	2.5Y 3 / 1	90	5Y 2.5 / 1	10			silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils were very dark and reduced. More clay in soil core beyond 10 inches deep.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-10-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 11

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-10-wet View of wetland



03-WTL-10-wet Undulating swales in wetland.



03-WTL-10-wet Channel and water marks in wetland.



03-WTL-10-wet View of upland



03-WTL-10-wet View of upland



03-WTL-10-wet Wetland soil core

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-10-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata:	<u>4</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC:	<u>50.00%</u> (A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>1</u> x 2 = <u>2</u>	
8 _____				FAC species <u>86</u> x 3 = <u>258</u>	
	<u>80</u> = Total Cover			FACU species <u>55</u> x 4 = <u>220</u>	
	50% of total cover <u>40</u>	20% of total cover: <u>16</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals	<u>142</u> (A) <u>480</u> (B)
1 <u>Liriodendron tulipifera</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index = B/A = <u>3.38</u>	
2 <u>Cornus florida</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
3 <u>Magnolia virginiana</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4 <u>Cornus florida</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5 _____				Definitions of Four Vegetation Strata:	
6 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
7 _____					
8 _____					
9 _____					
10 _____					
	<u>29</u> = Total Cover			Hydrophytic vegetation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
	50% of total cover <u>14.5</u>	20% of total cover: <u>5.8</u>			
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Lonicera japonica</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>		
2 <u>Smilax rotundifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
3 <u>Parthenocissus quinquefolia</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
4 <u>Cornus florida</u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
	<u>32</u> = Total Cover				
	50% of total cover <u>16</u>	20% of total cover: <u>6.4</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>1</u>		<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
	<u>1</u> = Total Cover				
	50% of total cover <u>0.5</u>	20% of total cover: <u>0.2</u>			

Remarks: (If observed, list morphological adaptations below).
Mesic upland hardwood forest with red maple & sweet gum dominant.

SOIL

Sampling Point: **03-WTL-10-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-1								Duff / no color
1-12	10YR 5 / 3	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Dry soil cores with high chroma colors. No mottling or other hydric features.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: September 1, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-11-wet
 Investigator(s): L. Eggering & L. Postaski Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.274254 Long: -77.456069 Datum: NAD-1983
 Soil Map Unit Name: _____ NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: This wetland is approximately 50 feet north of Lansdown Road.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	<input checked="" type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area varies from saturated to inundated throughout the wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-11-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Salix nigra	30	Y	OBL
2			
3			
4			
5			
6			
7			
8			

30 = Total Cover
 50% of total cover: 15 20% of total cover: 6

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Typha latifolia	60	Y	OBL
2 Persicaria virginiana	35		FAC
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

95 = Total Cover
 50% of total cover: 47.5 20% of total cover: 19

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
 Total Number of Dominant Species Across all Strata: _____ (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column totals _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 1 -Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 Problematic Hydrophytic Vegetation¹ (Explain) _____
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No _____

Remarks: (If observed, list morphological adaptations below).
No canopy present.

SOIL

Sampling Point: 03-WTL-11-wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	3.0 / 2	100				Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **The soils are dark. It is possible that the dark color of the soil is masking redox features.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-11-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: September 1, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-11-upl
 Investigator(s): L. Eggering & L. Postaski Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.27418 Long: -77.4559 Datum: NAD-1983
 Soil Map Unit Name: _____ NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: This upland is approximately 50 feet north of Lansdown Road.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **No hydrology present.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-11-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Liquidambar styraciflua	50	Y	FAC
2			
3			
4			
5			
6			
7			
8			

50 = Total Cover
 50% of total cover: **25** 20% of total cover: **10**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: **0** 20% of total cover: **0**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Poa pratensis	100	Y	FACU
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

100 = Total Cover
 50% of total cover: **50** 20% of total cover: **20**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Campsis radicans	15	Y	FAC
2			
3			
4			
5			

15 = Total Cover
 50% of total cover: **7.5** 20% of total cover: **3**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across all Strata: **3** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **66.67%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 65	x 3 = 195
FACU species 100	x 4 = 400
UPL species 0	x 5 = 0
Column totals 165 (A)	595 (B)

Prevalence Index = B/A = **3.61**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: 03-WTL-11-upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	5.0 / 4	100				Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-12-wet
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of Ballast Local relief (concave, convex, none): Concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.26305 Long: -77.452785 Datum: NAD-1983
 Soil Map Unit Name: Wickham loam, 2 to 7 percent slopes NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland is a railroad ditch wetland that extends into a forested area north of the west end of the Shannon Airport runway. It becomes an ephemeral channel. The area appears to drain both north and east.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The railroad ditch wetland remains saturated for a long duration during the growing seasons.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-12-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	Juncus effusus 60	Y	OBL
2	Carex spp. 30	Y	
3	Scirpus cyperinus 10	N	OBL
4	Carex frankii 8	N	OBL
5	Dichanthelium clandestinum 2	N	FACW
6			
7			
8			
9			
10			
11			
12			

110 = Total Cover
 50% of total cover: 55 20% of total cover: 22

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	Parthenocissus quinquefolia 8	Y	FACU
2			
3			
4			
5			

8 = Total Cover
 50% of total cover: 4 20% of total cover: 1.6

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>78</u>	x 1 = <u>78</u>
FACW species <u>2</u>	x 2 = <u>4</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>8</u>	x 4 = <u>32</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>88</u> (A)	<u>114</u> (B)

Prevalence Index = B/A = 1.30

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 X 3 - Prevalence Index is ≤3.0¹
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No

Remarks: (If observed, list morphological adaptations below).
The wetland community is narrow and confined to the ditch.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR	4 / 1	100					Sandy loam	
6-12	10YR	6 / 1	95	10YR	5 / 6	5		Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils likely disturbed by the airport fill material and the CSX railroad.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-12-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-12-wet runway.



03-WTL-12-wet Wetland vegetation near base of Shannon Airport runway.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-12-upl
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.263102 Long: -77.452719 Datum: NAD-1983
 Soil Map Unit Name: Wickham loam, 2 to 7 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This upland data point is located near the railroad ditch wetland. It is well drained, has upland (fill) soils, and has upland vegetation.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area is well drained at the end of the runway.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-12-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2		Y	
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status	
1	Sorghum halepense	90	Y	FACU
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

90 = Total Cover
 50% of total cover: 45 20% of total cover: 18

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status	
1	Campsis radicans	10	Y	FAC
2				
3				
4				
5				

10 = Total Cover
 50% of total cover: 5 20% of total cover: 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species	0 x 1 = 0
FACW species	0 x 2 = 0
FAC species	10 x 3 = 30
FACU species	90 x 4 = 360
UPL species	0 x 5 = 0
Column totals	100 (A) 390 (B)

Prevalence Index = B/A = 3.90

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
The area is mowed/maintained on an infrequent basis.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	5 / 6	100				Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This is fill material at the end of an airport runway.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: September 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-13-wet-1
 Investigator(s): B. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.262125 Long: -77.452566 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes ___ No X (If no, explain in Remarks.)
 Are vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes X No ___
 Are vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___
Remarks: This wetland was delineated during abnormally dry hydrological conditions. Field Sheet WTL0308wet1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
___ Surface Water (A1) ___ Aquatic Fauna (B13) ___ High Water Table (A2) ___ Marl Deposits (B15) (LRR U) ___ Saturation (A3) ___ Hydrogen Sulfide Odor (C1) ___ Water Marks (B1) <u>X</u> Oxidized Rhizospheres on Living Roots (C3) ___ Sediment Deposits (B2) ___ Presence of Reduced Iron (C4) ___ Drift Deposits (B3) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Algal Mat or Crust (B4) ___ Thin Muck Surface (C7) ___ Iron Deposits (B5) ___ Other (Explain in Remarks) ___ Inundation Visible on Aerial Imagery (B7) <u>X</u> Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6) <u>X</u> Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) <u>X</u> Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ FAC-Neutral Test (D5) ___ Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes ___ No <u>X</u> Depth (inches): Water table present? Yes ___ No <u>X</u> Depth (inches): Saturation present? Yes ___ No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No ___
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: It was very dry at the time of the survey, but hydrologic evidence shows that the area remains saturated and in places inundated for long durations during the growing season.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-13-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Liquidambar styraciflua</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Nyssa sylvatica</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
4 <u>Pinus taeda</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5 _____				
6 _____				
7 _____				
8 _____				
<u>105</u> = Total Cover 50% of total cover <u>52.5</u> 20% of total cover: <u>21</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>1</u> x 1 = <u>1</u> FACW species <u>7</u> x 2 = <u>14</u> FAC species <u>115</u> x 3 = <u>345</u> FACU species <u>1</u> x 4 = <u>4</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>124</u> (A) <u>364</u> (B) Prevalence Index = B/A = <u>2.94</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Vaccinium corymbosum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>1</u> = Total Cover 50% of total cover <u>0.5</u> 20% of total cover: <u>0.2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Leersia virginica</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <u>1</u> -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50% <input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0 _____ Problematic Hydrophytic Vegetation ¹ (Explain)
2 <u>Dichantherium dichotomum</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Carex albicans</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
4 <u>Carex scoparia</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
5 <u>Dichantherium polyanthes</u>	<u>1</u>	<u>N</u>	<u>N/A</u>	
6 <u>Agrostis perennans</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
7 <u>Lycopus virginicus</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>14</u> = Total Cover 50% of total cover <u>7</u> 20% of total cover: <u>2.8</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____

Remarks: (If observed, list morphological adaptations below).
Bottomland hardwood forest, red maple and sweet gum dominant. Disturbed long ago by road/ditch construction.

SOIL

Sampling Point: **03-WTL-13-wet-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹		
0-2	10YR	3 / 3	100						loam
2-13	10YR	5 / 1	80	7.5YR	5 / 8	20	C	PL/M	loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-13-wet-1

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-13-wet-1 View of northern portion of wetland



03-WTL-13-wet-1 Nonvegetated concave area in wetland.



03-WTL-13-wet-1 View of northern portion of wetland



03-WTL-13-wet-1 View of northern portion of wetland



03-WTL-13-wet-1 Bottomland hardwood wetland.



03-WTL-13-wet-1 View of upland, north of wetland

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: September 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-13-upl-1
 Investigator(s): B. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: -77.45279 Long: 38.262274 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Remarks: The hydrologic conditions at the time of delineation were abnormally dry. Field Sheet WTL-03-08-UP.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-13-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>4</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>7</u> x 3 = <u>21</u>	
	<u>0</u> = Total Cover			FACU species <u>95</u> x 4 = <u>380</u>	
	50% of total cover <u>0</u>			UPL species <u>0</u> x 5 = <u>0</u>	
	20% of total cover: <u>0</u>			Column totals <u>102</u> (A) <u>401</u> (B)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>3.93</u>	
1 <u>Prunus serotina</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
2 <u>Ailanthus altissima</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
3 <u>Diospyros virginiana</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	<u> </u> 2 - Dominance Test is >50%	
4 <u>Liquidambar styraciflua</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	<u> </u> 3 - Prevalence Index is ≤3.0	
5 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
6 _____					
7 _____					
8 _____					
	<u>20</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>10</u>			Definitions of Four Vegetation Strata:	
	20% of total cover: <u>4</u>			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
1 <u>Lonicera japonica</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2 <u>Solidago altissima</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
3 <u>Rubus sp.</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
4 <u>Euthamia graminifolia</u>	<u>2</u>	<u>N</u>	<u>FAC</u>		
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>62</u> = Total Cover			Hydrophytic vegetation present? Yes <u> </u> No <u>X</u>	
	50% of total cover <u>31</u>				
	20% of total cover: <u>12.4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Lonicera japonica</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>		
2 _____					
3 _____					
4 _____					
5 _____					
	<u>25</u> = Total Cover				
	50% of total cover <u>12.5</u>				
	20% of total cover: <u>5</u>				

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **03-WTL-13-upl-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	2.5YR 5 / 4	100						fine sandy loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg (city) Sampling Date: September 22, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-13-wet-2
 Investigator(s): L. Eggering, B. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Flat bottomland Local relief (concave, convex, none): convex Slope (%): 0-1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.261067 Long: -77.451763 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: The delineation was conducted during a very dry fall. Wetland 08-WTL-03 is a bottomland hardwood wetland on NPS Fredericksburg Battlefield known as the "Boggy Gap" in Civil War literature. The wetland extends to the CSX ballast. Field Sheet wet-03-08. Note: Lat/long derived from Google Earth.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)	<u>X</u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u>X</u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): Water table present? Yes <u> </u> No <u>X</u> Depth (inches): Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **It is evident that this area remains saturated for a long duration during the growing season. Considering the term "Boggy Gap" it has been a wetland predating the Civil War.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-13-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Quercus phellos</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)	
2 <u>Acer rubrum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
3 <u>Liquidambar styraciflua</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>58</u> x 2 = <u>116</u> FAC species <u>79</u> x 3 = <u>237</u> FACU species <u>2</u> x 4 = <u>8</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>139</u> (A) <u>361</u> (B) Prevalence Index = B/A = <u>2.60</u>	
5 _____					
6 _____					
7 _____					
8 _____					
<u>81</u> = Total Cover 50% of total cover <u>40.5</u> 20% of total cover: <u>16.2</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>Vaccinium corymbosum</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>		
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>15</u> = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Microstegium vimineum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____	
2 <u>Liquidambar styraciflua</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>		
3 <u>Agrostis perennans</u>	<u>2</u>	<u>N</u>	<u>FACU</u>		
4 <u>Solidago rugosa</u>	<u>2</u>	<u>N</u>	<u>FAC</u>		
5 <u>Dichanthelium dichotomum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
6 <u>Juncus dichotomus</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
7 <u>Vaccinium corymbosum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
8 <u>Quercus phellos</u>	<u>1</u>	<u>N</u>	<u>FACW</u>		
9 _____					
10 _____					
11 _____					
12 _____					
<u>43</u> = Total Cover 50% of total cover <u>21.5</u> 20% of total cover: <u>8.6</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).

Bottomland hardwood forest.

SOIL

Sampling Point: **03-WTL-13-wet-2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-1	2.5Y 4 / 1	100					loam	
1-3	2.5Y 5 / 1	98	2.5Y 6 / 8	2	C	PL	silt loam	
3-9	2.5Y 6 / 1	90	2.5Y 6 / 8	10	C	M	silt loam	
9-15	2.5Y 7 / 1	90	10YR 7 / 8	10	C	M	silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soil is dry and friable.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-13-wet-2

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	3	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 11

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-13-wet-2 View of middle of wetland



03-WTL-13-wet-2 View of middle of wetland



03-WTL-13-wet-2 Park sign near CSX ROW.



03-WTL-13-wet-2 Shallow root system.



03-WTL-13-wet-2 Nonvegetated herbaceous layer.



03-WTL-13-wet-2 Swale in wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: September 23, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-13-upl-2
 Investigator(s): L. Eggering Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.252166 Long: -77.439228 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes ___ No X (If no, explain in Remarks.)
 Are vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes ___ No X
 Are vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes ___ No <u>X</u> Wetland Hydrology Present? Yes ___ No <u>X</u>	Is the Sampled Area within a Wetland? Yes ___ No <u>X</u>
Remarks: Sample point was taken south of "Boggy Gap". Hydrologic conditions were dry at the time delineation was completed. Field Sheet wet-03-08 upland. Note: Lat/long derived from Google Earth.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
___ Surface Water (A1) ___ Aquatic Fauna (B13) ___ High Water Table (A2) ___ Marl Deposits (B15) (LRR U) ___ Saturation (A3) ___ Hydrogen Sulfide Odor (C1) ___ Water Marks (B1) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Sediment Deposits (B2) ___ Presence of Reduced Iron (C4) ___ Drift Deposits (B3) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Algal Mat or Crust (B4) ___ Thin Muck Surface (C7) ___ Iron Deposits (B5) ___ Other (Explain in Remarks) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ FAC-Neutral Test (D5) ___ Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes ___ No <u>X</u> Depth (inches): Water table present? Yes ___ No <u>X</u> Depth (inches): Saturation present? Yes ___ No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes ___ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This is an upland area south of 08-WTL-03. There is a gradual rise in elevation as you move south from 08-WTL-03. This is a bottomland hardwood forest.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-13-upl-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Quercus alba</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u> (A/B)
2 <u>Liquidambar styraciflua</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Quercus phellos</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4 <u>Pinus taeda</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5 _____				
6 _____				
7 _____				
8 _____				
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>43</u> x 3 = <u>129</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>103</u> (A) <u>349</u> (B) Prevalence Index = B/A = <u>3.39</u> Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <u> </u> X 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Liquidambar styraciflua</u>	<u>4</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Acer rubrum</u>	<u>4</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Nyssa sylvatica</u>	<u>4</u>	<u>Y</u>	<u>FAC</u>	
4 <u>Juniperus virginiana</u>			<u>FACU</u>	
5 _____				
6 _____				
7 _____				
8 _____				
<u>12</u> = Total Cover 50% of total cover <u>6</u> 20% of total cover: <u>2.4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Diospyros virginiana</u>	<u>1</u>		<u>FAC</u>	
2 <u>Chimaphila maculata</u>	<u>1</u>			
3 <u>Danthonia spicata</u>	<u>1</u>			
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>3</u> = Total Cover 50% of total cover <u>1.5</u> 20% of total cover: <u>0.6</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <u>X</u> No _____				

Remarks: (If observed, list morphological adaptations below).

Mesic acid white oak-dominated forest.

SOIL

Sampling Point: **03-WTL-13-upl-2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-2	2.5Y 4 / 1	100					loam	
2-7	2.5Y 7 / 4	100					loam	
7-15	2.5Y 6 / 4	100					loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Soil very dry and friable.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg/Spotsylvania Sampling Date: September 23, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-13-wet-3
 Investigator(s): L. Eggering, B. Moorhead Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): flat floodplain Local relief (concave, convex, none): convex/flat Slope (%): 0-1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.257411 Long: -77.446755 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: This sample plot in 08-WLT-03 is in the central portion of the wetland known as 'Boggy Gap'. It is representative of the wetland as a whole. Wetland was surveyed during a very dry fall season. Field Sheet wet-03-08 central sample point. Note: Lat/long derived from Google Earth.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
	<input checked="" type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is obviously inundated and saturated for a long duration.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-13-wet-3**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Liquidambar styraciflua</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across all Strata: <u>7</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Nyssa sylvatica</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Quercus phellos</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
5 <u>Quercus alba</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
6 _____				
7 _____				
8 _____				
<u>100</u> = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>31</u> x 2 = <u>62</u> FAC species <u>81</u> x 3 = <u>243</u> FACU species <u>17</u> x 4 = <u>68</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>129</u> (A) <u>373</u> (B) Prevalence Index = B/A = <u>2.89</u> Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <u> </u> <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <u> </u> <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Acer rubrum</u>	<u>7</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Vaccinium corymbosum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
3 <u>Gaylussacia baccata</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
4 <u>Quercus alba</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
5 _____				
6 _____				
7 _____				
8 _____				
<u>11</u> = Total Cover 50% of total cover <u>5.5</u> 20% of total cover: <u>2.2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Chasmanthium laxum</u>	<u>7</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Carex albicans</u>	<u>4</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Liquidambar styraciflua</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
4 <u>Bidens aristosa</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
5 <u>Nyssa sylvatica</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
6 <u>Smilax rotundifolia</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
7 <u>Acer rubrum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
8 <u>Quercus phellos</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
9 <u>Ilex opaca</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
10 _____				
11 _____				
12 _____				
<u>18</u> = Total Cover 50% of total cover <u>9</u> 20% of total cover: <u>3.6</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____				

Remarks: (If observed, list morphological adaptations below).

Bottomland hardwood forest.

SOIL

Sampling Point: **03-WTL-13-wet-3**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-2	10YR 3 / 1	100					silt loam	
2-10	10YR 5 / 1	80	7.5YR 5 / 3	15				
			10YR 7 / 1	5			silt loam	depleted matrix
10-15	10YR 5 / 1	80	10YR 7 / 1	15			clay loam	depletion
			7.5YR 5 / 8	5			clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are strongly reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-13-wet-3

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	3	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 11

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-13-wet-3 View of southern portion of wetland



03-WTL-13-wet-3 View of southern portion of wetland



03-WTL-13-wet-3 View of southern portion of wetland



03-WTL-13-wet-3 View of southern portion of wetland



03-WTL-13-wet-3 View of southern portion of wetland



03-WTL-13-wet-3 Soils in shallow root system.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-14-wet
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): <1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.260842 Long: -77.45052 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	

Remarks: **This wetland is primarily a forested wetland that also includes a railroad ditch component. The forest community mimics the wetland community west of the CSX line. The maintenance of drainage along the CSX ROW adversely affects the hydrology of the wetland. The same wetland system is represented as two different polygons in GIS (03-WTL-14 and 03-WTL-15).**

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		<u> </u> Surface Soil Cracks (B6)
<u> </u> Surface Water (A1)	<u> </u> Aquatic Fauna (B13)	<u>X</u> Sparsely Vegetated Concave Surface (B8)
<u> </u> High Water Table (A2)	<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Drainage Patterns (B10)
<u> </u> Saturation (A3)	<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)	<u> </u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled Soils (C6)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Thin Muck Surface (C7)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Other (Explain in Remarks)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)		<u> </u> FAC-Neutral Test (D5)
<u>X</u> Water-Stained Leaves (B9)		<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations:		Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Surface water present?	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Water table present?	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? (includes capillary fringe)	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Forested flat that was bisected by the CSX railroad. Evidence indicated that the area is infrequently inundated or saturated to the surface. The excavated railroad ditch adversely affects the hydrology in the area, but the ditch and the forested portion would have the requisite hydrology.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-14-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	50	Y	FAC
2 Quercus phellos	10	N	FACW
3			
4			
5			
6			
7			
8			

60 = Total Cover
 50% of total cover: **30** 20% of total cover: **12**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	10	Y	FAC
2 Quercus phellos	10	Y	FACW
3			
4			
5			
6			
7			
8			

20 = Total Cover
 50% of total cover: **10** 20% of total cover: **4**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	1		FAC
2 Quercus phellos	1		FACW
3 Carex albicans	1		FAC
4			
5			
6			
7			
8			
9			
10			
11			
12			

3 = Total Cover
 50% of total cover: **1.5** 20% of total cover: **0.6**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: **0** 20% of total cover: **0**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across all Strata: **3** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **100.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 21	x 2 = 42
FAC species 62	x 3 = 186
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column totals 83 (A)	228 (B)

Prevalence Index = B/A = **2.75**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
The herbaceous layer is nearly absent.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-4	10YR	4 / 1	100					Loam	
4-12	10YR	6 / 1	95	10YR	5 / 6	5		Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
 Hydric soil present? Yes No

Remarks: **There is a lot of organic matter in the top 2 inches of the soil core.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-14-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 9

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-14-wet Water stained leaves in PFO portion of the wetland.



03-WTL-14-wet Bottomland hardwoods within wetland.



03-WTL-14-wet Railroad ditch portion of wetland system.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-14-upl
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.260793 Long: -77.450668 Datum: NAD-1983
 Soil Map Unit Name: Wickham loam, 2 to 7 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>	

Remarks: **This upland data point is located between the bottomland hardwood and railroad ditch components of this wetland system. The wetland system is represented by two different polygons in GIS (03-WTL-14 and 03-WTL-15). The area is raised and does not have the requisite hydrology to be considered a wetland.**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	<u> </u> Surface Soil Cracks (B6)
<u> </u> Surface Water (A1)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> High Water Table (A2)	<u> </u> Drainage Patterns (B10)
<u> </u> Saturation (A3)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Water-Stained Leaves (B9)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Aquatic Fauna (B13)	
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area is located across from Boggy Gap. The upland point is on a raised area.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-14-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2		Y	
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Liquidambar styraciflua	5	Y	FAC
2 Ailanthus altissima	5	Y	FACU
3			
4			
5			
6			
7			
8			

10 = Total Cover
 50% of total cover: 5 20% of total cover: 2

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Sorghum halepense	45	Y	FACU
2 Microstegium vimineum	50		FAC
3 Tripsacum dactyloides	5		FAC
4			
5			
6			
7			
8			
9			
10			
11			
12			

100 = Total Cover
 50% of total cover: 50 20% of total cover: 20

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Campsis radicans	5	Y	FAC
2			
3			
4			
5			

5 = Total Cover
 50% of total cover: 2.5 20% of total cover: 1

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 40.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>65</u>	x 3 = <u>195</u>
FACU species <u>50</u>	x 4 = <u>200</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>115</u> (A)	<u>395</u> (B)

Prevalence Index = B/A = 3.43

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).
The area remains herbaceous due to railroad maintenance.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-4	10YR	5 / 4	100					Loam	
4-12	10YR	5 / 6	95	10YR	5 / 2	5		Sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **The soil is likely disturbed from the excavated railroad ditch. The area is near the toe of the railroad ballast.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-15-wet
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): <1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.260842 Long: -77.45052 Datum: NAD-1983
 Soil Map Unit Name: Aquults, gravelly substratum NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	

Remarks: **This wetland is primarily a forested wetland that also includes a railroad ditch component. The forest community mimics the wetland community west of the CSX line. The maintenance of drainage along the CSX ROW adversely affects the hydrology of the wetland. The same wetland system is represented as two different polygons in GIS (03-WTL-14 and 03-WTL-15).**

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		<u> </u> Surface Soil Cracks (B6)
<u> </u> Surface Water (A1)	<u> </u> Aquatic Fauna (B13)	<u>X</u> Sparsely Vegetated Concave Surface (B8)
<u> </u> High Water Table (A2)	<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Drainage Patterns (B10)
<u> </u> Saturation (A3)	<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)	<u> </u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled Soils (C6)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Thin Muck Surface (C7)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Other (Explain in Remarks)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)		<u> </u> FAC-Neutral Test (D5)
<u>X</u> Water-Stained Leaves (B9)		<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations:		Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Surface water present?	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Water table present?	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? (includes capillary fringe)	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Forested flat that was bisected by the CSX railroad. Evidence indicated that the area is infrequently inundated or saturated to the surface. The excavated railroad ditch adversely affects the hydrology in the area, but the ditch and the forested portion would have the requisite hydrology.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-15-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>
2 <u>Quercus phellos</u>	<u>10</u>	<u>N</u>	<u>FACW</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

60 = Total Cover
 50% of total cover: 30 20% of total cover: 12

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2 <u>Quercus phellos</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			

20 = Total Cover
 50% of total cover: 10 20% of total cover: 4

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 <u>Acer rubrum</u>	<u>1</u>		<u>FAC</u>
2 <u>Quercus phellos</u>	<u>1</u>		<u>FACW</u>
3 <u>Carex albicans</u>	<u>1</u>		<u>FAC</u>
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			
9 _____			
10 _____			
11 _____			
12 _____			

3 = Total Cover
 50% of total cover: 1.5 20% of total cover: 0.6

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 _____			
2 _____			
3 _____			
4 _____			
5 _____			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>21</u>	x 2 = <u>42</u>
FAC species <u>62</u>	x 3 = <u>186</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>83</u> (A)	<u>228</u> (B)

Prevalence Index = B/A = 2.75

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
The herbaceous layer is nearly absent.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-4	10YR	4 / 1	100					Loam	
4-12	10YR	6 / 1	95	10YR	5 / 6	5		Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **There is a lot of organic matter in the top 2 inches of the soil core.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-15-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 9

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-15-wet Water stained leaves in PFO portion of the wetland.



03-WTL-15-wet Bottomland hardwoods within wetland.



03-WTL-15-wet Railroad ditch portion of wetland system.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Fredericksburg Sampling Date: July 22, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-15-upl
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.260793 Long: -77.450668 Datum: NAD-1983
 Soil Map Unit Name: Wickham loam, 2 to 7 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>	

Remarks: **This upland data point is located between the bottomland hardwood and railroad ditch components of this wetland system. The wetland system is represented by two different polygons in GIS (03-WTL-14 and 03-WTL-15). The area is raised and does not have the requisite hydrology to be considered a wetland.**

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area is located across from Boggy Gap. The upland point is on a raised area.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-15-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2		Y	
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Liquidambar styraciflua	5	Y	FAC
2 Ailanthus altissima	5	Y	FACU
3			
4			
5			
6			
7			
8			

10 = Total Cover
 50% of total cover: 5 20% of total cover: 2

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Sorghum halepense	45	Y	FACU
2 Microstegium vimineum	50		FAC
3 Tripsacum dactyloides	5		FAC
4			
5			
6			
7			
8			
9			
10			
11			
12			

100 = Total Cover
 50% of total cover: 50 20% of total cover: 20

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Campsis radicans	5	Y	FAC
2			
3			
4			
5			

5 = Total Cover
 50% of total cover: 2.5 20% of total cover: 1

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 40.00% (A/B)

Prevalence Index worksheet

Total % Cover of: Multiply by:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	65	x 3 =	195
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column totals	115	(A)	395 (B)

Prevalence Index = B/A = 3.43

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).
The area remains herbaceous due to railroad maintenance.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-4	10YR	5 / 4	100					Loam	
4-12	10YR	5 / 6	95	10YR	5 / 2	5		Sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **The soil is likely disturbed from the excavated railroad ditch. The area is near the toe of the railroad ballast.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Olive Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-16-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.214626 Long: -77.439529 Datum: NAD-1983

Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland is within a clear-cut area, approximately 120 feet from the railroad ballast.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6 inches</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This is a clear cut area with saturated soils.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-16-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Acer rubrum</u>	<u>5</u>		FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
_____ = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 _____ Problematic Hydrophytic Vegetation ¹ (Explain)	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Alnus serrulata</u>	<u>10</u>	Y	FACW		Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 _____ Problematic Hydrophytic Vegetation ¹ (Explain)
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
_____ = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Juncus effusus</u>	<u>10</u>	Y	OBL		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2 <u>Carex spp.</u>	<u>5</u>	Y			
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
_____ = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 _____					Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____
2 _____					
3 _____					
4 _____					
5 _____					
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **03-WTL-16-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹		
0-3	10YR 6 / 2		90	10YR 6 / 8	10			clay loam
3-12+	10YR 4 / 1		100					clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are being reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-16-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Olive Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-16-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): base of ballast Local relief (concave, convex, none): none Slope (%): 20%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.214946 Long: -77.438949 Datum: NAD-1983
 Soil Map Unit Name: Udothents-Udifluents complex, gently sloping NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil X, or Hydrology significantly disturbed? Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland point taken at base of railroad ballast. Soils are well drained.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-16-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)	
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>25.00%</u> (A/B)	
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet	
50% of total cover <u>0</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>0</u>				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>10</u> x 2 = <u>20</u>	
				FAC species <u>0</u> x 3 = <u>0</u>	
				FACU species <u>15</u> x 4 = <u>60</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>25</u> (A) <u>80</u> (B)	
				Prevalence Index = B/A = <u>3.20</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Juniperus virginiana</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
2 _____	_____	_____	_____	<u>2</u> - Dominance Test is >50%	
3 _____	_____	_____	_____	<u>3</u> - Prevalence Index is ≤3.0	
4 _____	_____	_____	_____	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>2.5</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>1</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Panicum spp.</u>	<u>30</u>	<u>Y</u>	_____		
2 <u>Phytolacca americana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
3 <u>Dichanthelium clandestinum</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
9 _____	_____	_____	_____		
10 _____	_____	_____	_____		
11 _____	_____	_____	_____		
12 _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover <u>25</u>					
20% of total cover: <u>10</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 _____	_____	_____	_____		
2 _____	_____	_____	_____		
3 _____	_____	_____	_____		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover <u>0</u>					
20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Herbicide may have been applied to toe of railroad ballast.

SOIL

Sampling Point: **03-WTL-16-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 4	100					Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soil from base of ballast.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-17-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Railroad ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.213798 Long: -77.438262 Datum: NAD-1983
 Soil Map Unit Name: Dystrochrepts-Udults complex NWI classification: PFO/PSS
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil X, or Hydrology X significantly disturbed? Yes Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is a recent man-made stormwater pond and adjacent railroad ditch parallel to the CSX line. A small check dam (rip-rap) in the drainage swale appears to pond water up to 8 inches deep. Large trees have recently died and other growth indicates that this stormwater improvement probably occurred in the last 5-7 years. Since this is for stormwater purposes and there are no hydric soils it is likely not jurisdictional. During a December 16, 2015 field review with the USACE and VDEQ, the agencies requested that the boundary be extended to include an area that was filled with soil from adjacent hillside erosion. Field Sheet 10-A-WTL-05 wetDP1	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0-5</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The rip-rap check dam creates the small pond. Since the area has some upland vegetation in the bottom, it likely dries out quickly. Surface runoff comes from the railroad ditch to the south. If the rip-rap check dam were removed, the area would drain and would not pond water.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-17-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Betula nigra</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Quercus phellos</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Echinochloa muricata</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Andropogon virginicus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>17.5</u> 20% of total cover: <u>7</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
The large upland trees have dies (likely due to water stress) and river birch has begun to grow on the margins along with loblolly pine and Virginia pine. 80% of the ponded area is not vegetated.

SOIL

Sampling Point: **03-WTL-17-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 4	98		2			sandy loam	Lots of rock in core

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils appear to be subsoil from stormwater construction.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-17-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-17-wet Inundated portion of wetland.



03-WTL-17-wet View of wetland.



03-WTL-17-wet View of filled portion of wetland from hillside erosion (see note about USACE and DEQ field review).



03-WTL-17-wet Upland data point near wetland.



03-WTL-17-wet Wetland soil core

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-17-upl
 Investigator(s): L. eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad spoil Local relief (concave, convex, none): convex Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.189857 Long: -77.446631 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Data point on railroad spoil (elevated area) between WTL 4 and railroad. Field Sheet 10-A-WTL-04 upDP1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil is well drained. This sample point is in a disturbed area near the toe of the ballast.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-17-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>20.00%</u> (A/B)	
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet	
50% of total cover <u>0</u>				Total % Cover of: _____ Multiply by: _____	
20% of total cover: <u>0</u>				OBL species <u>0</u> x 1 = <u>0</u>	
				FACW species <u>15</u> x 2 = <u>30</u>	
				FAC species <u>0</u> x 3 = <u>0</u>	
				FACU species <u>15</u> x 4 = <u>60</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>30</u> (A) <u>90</u> (B)	
				Prevalence Index = B/A = <u>3.00</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Juniperus virginiana</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
2 _____	_____	_____	_____	<u> </u> 2 - Dominance Test is >50%	
3 _____	_____	_____	_____	<u> </u> X 3 - Prevalence Index is ≤3.0	
4 _____	_____	_____	_____	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover <u>7.5</u>				Definitions of Four Vegetation Strata:	
20% of total cover: <u>3</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
				Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Pinus virginiana</u>	<u>15</u>	<u>Y</u>	_____		
2 <u>Dichanthelium clandestinum</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>		
3 <u>Yucca spp.</u>	<u>15</u>	<u>Y</u>	_____		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
9 _____	_____	_____	_____		
10 _____	_____	_____	_____		
11 _____	_____	_____	_____		
12 _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover <u>22.5</u>					
20% of total cover: <u>9</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Rubus spp.</u>	<u>80</u>	<u>Y</u>	_____		
2 _____	_____	_____	_____		
3 _____	_____	_____	_____		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover <u>40</u>					
20% of total cover: <u>16</u>					
				Hydrophytic vegetation present? Yes <u>X</u> No _____	

Remarks: (If observed, list morphological adaptations below).
Plants are adapted to the dry sandy soil conditions.

SOIL

Sampling Point: **03-WTL-17-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 2	100					loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Core taken in railroad spoil.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-18-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.210447 Long: -77.436997 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This railroad ditch wetland has the requisite hydrology and vegetation and although the soils are not currently hydric, they are being actively reduced. This is now the normal circumstance and would likely be considered a wetland. This area connects to the eroded hillside referenced in the previous data sheet that was reviewed with the USACE and VDEQ on December 16, 2016. Field Sheet 10-A-WTL-06 wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>7</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area ponds water and remains saturated for a long duration.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-18-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Eleocharis acicularis</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Echinochloa muricata</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3 <u>Saccharum giganteum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4 <u>Carex spp.</u>	<u>5</u>	<u>N</u>		
5 <u>Hypnum imponens</u>	<u>5</u>	<u>N</u>		
6				
7				
8				
9				
10				
11				
12				
65 = Total Cover 50% of total cover <u>32.5</u> 20% of total cover: <u>13</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____

Remarks: (If observed, list morphological adaptations below).
The bottom of the ditch/swale has obligate plants. The E. muricata and plume grass are on higher portions of the swale.

SOIL

Sampling Point: **03-WTL-18-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 3	75	10YR 6 / 1	25			sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Although this soil does not meet the reduced matrix, it is actively being reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-18-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-18-wet View of railroad ditch wetland.



03-WTL-18-wet View of wetland



03-WTL-18-wet Disturbed soils in core sample.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-18-upl
 Investigator(s): L. eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 45%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.210509 Long: -77.436987 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland data point on hillslope northeast of WTL-06. Field Sheet 10-A-WTL-06 upDP1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is very steep and well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-18-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 Pinus taeda	80	Y	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 Pinus virginiana	10	N		
3				
4				
5				
6				
7				
8				
50% of total cover <u>45</u> 20% of total cover: <u>18</u> Total Cover: <u>90</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>87</u> x 3 = <u>261</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>87</u> (A) <u>261</u> (B) Prevalence Index = B/A = <u>3.00</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 Pinus taeda	2		FAC	
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>1</u> 20% of total cover: <u>0.4</u> Total Cover: <u>2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 none				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>0</u> 20% of total cover: <u>0</u> Total Cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 Smilax rotundifolia	5	Y	FAC	
2				
3				
4				
5				
50% of total cover <u>2.5</u> 20% of total cover: <u>1</u> Total Cover: <u>5</u>				
Remarks: (If observed, list morphological adaptations below). Eroded hillslope dominated by pines.				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

SOIL

Sampling Point: **03-WTL-18-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 4 / 2	95		5			loam	5% organic matter
3-12	10YR 5 / 4	95	10YR 6 / 8	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Soils were not reduced.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-19-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.20832 Long: -77.436608 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This was a railroad ditch wetland that appeared to be saturated or inundated for long durations during the growing season. It was divided into 2 segments by a raised area, and it drains into a culvert that flows east under the railroad tracks. Delineated after a 3-day rain event. Field Sheet 10-A-WTL-02 rrditch wetland wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>> 12</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This railroad ditch wetland remains saturated and inundated for long durations during the growing season. Ditch's coming into either side of the wetland are likely dry ephemeral railroad ditch channels during the growing season with upland plants, e.g. Virginia pine, in the bottom. Filamentous algae was growing in the ponded area.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-19-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Eleocharis acicularis</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Juncus effusus</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Unknown lichen</u>	<u>10</u>	<u>Y</u>		
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Smilax rotundifolia</u>	<u>2</u>		<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).
The lower portions of the wetland were not vegetated. Area had been sprayed with herbicide.

SOIL

Sampling Point: **03-WTL-19-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Matrix			Redox Features				Texture	Remarks	
	Color (moist)		%	Color (moist)		%	Type ¹			Loc ²
0-12	10YR	6 / 1	80	10YR	6 / 8	20			silt loam	some sand in core

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils in wetland were disturbed by railroad activities, but they were actively reducing.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-19-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 3

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-19-wet View upstream along CSX.



03-WTL-19-wet View downstream toward culvert under railroad.



03-WTL-19-wet Upland soil core



03-WTL-19-wet View upstream



03-WTL-19-wet Wetland soil core



03-WTL-19-wet Wetland soil

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-19-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 50%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.208271 Long: -77.436684 Datum: NAD-1983
 Soil Map Unit Name: Dystrochrepts-Udults complex, steep NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: The upland point is on a well cut bank adjacent to 10-WTL-02. Soil would be typically well drained. It was raining at time of delineation. Field Sheet 10-A-WTL-02 updp1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Saturation due to 3 day rain event. Soils would normally be moderatly to well-drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-19-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Pinus virginiana</u>	<u>90</u>	<u>Y</u>		Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Pinus virginiana</u>	<u>30</u>	<u>Y</u>		
2				
3				
4				
5				
6				
7				
8				
<u>30</u> = Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Understory nearly absent.

SOIL

Sampling Point: **03-WTL-19-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 6	80	10YR 6 / 8	20			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **This is well-drained upland soil.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Olive Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-20-wet
 Investigator(s): L. Postaski, R. Mangum Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.211884 Long: -77.437571 Datum: NAD-1983
 Soil Map Unit Name: Kempsville gravelly sandy loam, 7 to 15 percent slopes NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This railroad ditch wetland located approximately 20 feet from the railway. To the east of the wetland is a hillslope and a railyard located off of Crossroads Parkway.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area ponds water and remains saturated for a long duration.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-20-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Total Cover <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Total Cover <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1	<u>25</u>	<u>Y</u>	<u>OBL</u>	
2	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3	<u>5</u>	<u>N</u>	<u>FACW</u>	
4	<u>5</u>	<u>N</u>		
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				
Total Cover <u>45</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Total Cover <u>0</u>				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across all Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column totals _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **03-WTL-20-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 3	75	10YR 6 / 1	25			sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No

Remarks: **Although this soil does not meet the reduced matrix, it is actively being reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-20-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Olive Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-20-upl
 Investigator(s): L. eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 45%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.211957 Long: -77.43751 Datum: NAD-1983
 Soil Map Unit Name: Kempsville gravelly sandy loam, 7 to 15 percent slopes NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland data point on hillslope east of the wetland.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is steep and well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-20-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Pinus taeda</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
2 <u>Pinus virginiana</u>	<u>15</u>	<u>Y</u>		
3				
4				
5				
6				
7				
8				
<u>35</u> = Total Cover 50% of total cover <u>17.5</u> 20% of total cover: <u>7</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>35</u> (A) <u>105</u> (B) Prevalence Index = B/A = <u>3.00</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Pinus taeda</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2				
3				
4				
5				
6				
7				
8				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <u>1</u> -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50% <input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Smilax rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2				
3				
4				
5				
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Remarks: (If observed, list morphological adaptations below). <p style="text-align:center;">Eroded hillslope dominated by pines.</p>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.

SOIL

Sampling Point: **03-WTL-20-up1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 4 / 2	100					Loam	
3-12	10YR 5 / 4	100					Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils were not reduced and were well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-21-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Nyssa sylvatica</u>	<u>30</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Liquidambar styraciflua</u>	<u>20</u>		<u>FAC</u>	
3 <u>Liriodendron tulipifera</u>	<u>5</u>		<u>FACU</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>55</u> = Total Cover 50% of total cover <u>27.5</u> 20% of total cover: <u>11</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>55</u> x 3 = <u>165</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>225</u> (B) Prevalence Index = B/A = <u>2.81</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Clethra alnifolia</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>20</u> = Total Cover 50% of total cover <u>10</u> 20% of total cover: <u>4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				

Hydrophytic Vegetation Indicators:

- 1 -Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0
- Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

- Tree** - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/shrub** - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
- Woody vines** - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Herb layer nearly absent due to shade from overstory.

SOIL

Sampling Point: **03-WTL-21-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 4 / 2	75	10YR 6 / 1	25			silt loam	some sand in core
3-12	10YR 5 / 2	55	10YR 5 / 8	45			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils were borderline on the matrix colors, but since this is now the normal circumstances and since the soils are actively reducing, they would be considered hydric for purposes of the delineation.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-21-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 8

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-21-wet View of wetland



03-WTL-21-wet Shallow roots in wetland

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-21-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.208247 Long: -77.436849 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifulvents complex, gently sloping NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Data point adjacent to 10-A-WTL-01. Point is on a slight hillslope that is well drained. It was raining at time of delineation. Field Sheet 10-A-WTL-01 updp1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soils were saturated due to recent 3 day rain event. Soils would normally be moderately well drained. Slope is not reducing.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-21-upl**

Tree Stratum	(Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>Quercus alba</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>
2	<u>Nyssa sylvatica</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
3	<u>Liriodendron tulipifera</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
4	<u>Pinus virginiana</u>	<u>10</u>	<u>N</u>	
5				
6				
7				
8				

90 = Total Cover
 50% of total cover 45 20% of total cover: 18

Sapling/Shrub Stratum	(Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>Quercus alba</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
2	<u>Nyssa sylvatica</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
3	<u>Liriodendron tulipifera</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
4				
5				
6				
7				
8				

15 = Total Cover
 50% of total cover 7.5 20% of total cover: 3

Herb Stratum	(Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>none</u>			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

0 = Total Cover
 50% of total cover 0 20% of total cover: 0

Woody Vine Stratum	(Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>none</u>			
2				
3				
4				
5				

0 = Total Cover
 50% of total cover 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>70</u>	x 4 = <u>280</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>95</u> (A)	<u>355</u> (B)

Prevalence Index = B/A = 3.74

- Hydrophytic Vegetation Indicators:**
- 1 -Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0
 - Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).
Area to the north cutover within the past 10 years.

SOIL

Sampling Point: **03-WTL-21-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 6	95	10YR 6 / 2	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils were clearly upland and normally well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-22-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Thuidium recognitum</u>	<u>70</u>	<u>Y</u>		
2 <u>Eleocharis acicularis</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
The spike rush was primarily in the railroad ditch, whereas the sheet moss was in the saturated areas to the west.

SOIL

Sampling Point: **03-WTL-22-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5 / 1	95	10YR 6 / 6	5			silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils were reduced and very dark, indicating that there may be a groundwater connection.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-22-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-22-wet Boggy area



03-WTL-22-wet View of wetland looking toward tracks



03-WTL-22-wet Wetland soil core



03-WTL-22-wet Wetland soil



03-WTL-22-wet Upland soil core



03-WTL-22-wet Upland soil

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-22-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 50%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.20595 Long: -77.436252 Datum: NAD-1983
 Soil Map Unit Name: Dystrochrepts-Udults complex NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Data point taken adjacent to 10-WTL-03 (railroad ditch). Point on well drained hill slope on NW side of wetland. Virginia pine is dominant vegetation. Field Sheet 10-A-WTL-03 near boggy area upDP1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soils were saturated due to 3 day rain event. Soils would normally be well-drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-22-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Pinus virginiana</u>	<u>60</u>	<u>Y</u>		Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
<u>60</u> = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>5</u> (A) <u>15</u> (B) Prevalence Index = B/A = <u>3.00</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Pinus virginiana</u>	<u>30</u>	<u>Y</u>		
2				
3				
4				
5				
6				
7				
8				
<u>30</u> = Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2				
3				
4				
5				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: (If observed, list morphological adaptations below).
Most of the herbaceous vegetation had senesced in the late fall making identification to species very difficult.

SOIL

Sampling Point: **03-WTL-22-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 6 / 3	80	10YR 6 / 8	20			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **This is well-drained upland soil.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-23-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.189637 Long: -77.446206 Datum: NAD-1983

Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a broad flat swale that appears to connect to a wetland on the western side of the railroad. The wetland hydrology appears to be influenced by beaver activity.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u>X</u> Drainage Patterns (B10)
<u>X</u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u>X</u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0- 2"</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area appears to remain saturated for long durations during the growing season. The alder has buttressed trunk, and there are shallow root systems on fallen trees.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-23-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Acer rubrum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>92</u> x 2 = <u>184</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>102</u> (A) <u>204</u> (B) Prevalence Index = B/A = <u>2.00</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Alnus serrulata</u>	<u>80</u>	<u>Y</u>	<u>FACW</u>		Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2 <u>Clethra alnifolia</u>	<u>10</u>	<u>N</u>	<u>FACW</u>		
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Carex spp.</u>	<u>10</u>	<u>Y</u>			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____
2 <u>Juncus effusus</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>		
3 <u>Dichanthelium clandestinum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>17</u> = Total Cover 50% of total cover <u>8.5</u> 20% of total cover: <u>3.4</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 _____					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **03-WTL-23-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 1	95	10YR 5 / 3	5			Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are affected by nearby ballast.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-23-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	3	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-23-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Ballast slope Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.189385 Long: -77.446974 Datum: NAD-1983

Soil Map Unit Name: Udorthents-Udifulvents complex, gently sloping NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: The upland point was taken in an elevated area between the wetland and the railway. Benchmark Road runs proximal to the upland point.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil is well drained. This sample point is in a disturbed area near the toe of the ballast.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-23-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>25.00%</u> (A/B)
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>20</u> (A) <u>60</u> (B) Prevalence Index = B/A = <u>3.00</u> Hydrophytic Vegetation Indicators: _____ 1 -Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 _____ Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Juniperus virginiana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Pinus virginiana</u>	<u>20</u>	<u>Y</u>	_____	
2 <u>Dichanthelium clandestinum</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
11 _____	_____	_____	_____	
12 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>15</u> 20% of total cover: <u>6</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Rubus spp.</u>	<u>25</u>	<u>Y</u>	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>12.5</u> 20% of total cover: <u>5</u>				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No _____

Remarks: (If observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 2	100					Loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **The soil core was taken near the toe of the ballast. Soils are well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-24-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.189955 Long: -77.446663 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a broad flat swale that intersects with Stream 1. Beavers have ponded the southern portion of the wetland causing the stream to become braided (cutting new channels). The upper portion, north of the culvert, may have some groundwater interaction as the soils are very depleted. Field Sheet 10-A-WTL-04 wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>up to 2"</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This area appears to remain saturated for long durations during the growing season. The alder has buttressed trunk, and there are shallow root systems on fallen trees.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-24-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>4</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>5</u> x 1 = <u>5</u>	
7 _____				FACW species <u>112</u> x 2 = <u>224</u>	
8 _____				FAC species <u>5</u> x 3 = <u>15</u>	
	<u>5</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
	50% of total cover <u>2.5</u>	20% of total cover: <u>1</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>122</u> (A) <u>244</u> (B)	
1 <u>Alnus serrulata</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index = B/A = <u>2.00</u>	
2 <u>Clethra alnifolia</u>	<u>20</u>	<u>N</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators:	
3 _____				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
4 _____				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
5 _____				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____					
8 _____					
	<u>110</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>55</u>	20% of total cover: <u>22</u>		Definitions of Four Vegetation Strata:	
Herb Stratum (Plot Size: <u>5' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>Carex spp.</u>	<u>10</u>	<u>Y</u>		Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 <u>Juncus effusus</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 <u>Dichanthelium clandestinum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>17</u> = Total Cover			Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
	50% of total cover <u>8.5</u>	20% of total cover: <u>3.4</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).
Most herbaceous vegetation in wetland has senesced.

SOIL

Sampling Point: **03-WTL-24-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 1	95	10YR 5 / 3	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are affected by nearby ballast.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-24-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	3	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-24-wet Beaver dam at south end of wetland.



03-WTL-24-wet View of area ponded by beaver activity at base of ballast.



03-WTL-24-wet North end of wetland facing west.



03-WTL-24-wet Culvert under railroad.



03-WTL-24-wet Stream one ponded.



03-WTL-24-wet Stream one ponded.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-24-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Ballast slope Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.189857 Long: -77.446631 Datum: NAD-1983

Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Data point on railroad spoil (elevated area) between WTL 4 and railroad. Field Sheet 10-A-WTL-04 upDP1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil is well drained. This sample point is in a disturbed area near the toe of the ballast.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-24-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>20.00%</u> (A/B)
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>30</u> (A) <u>90</u> (B) Prevalence Index = B/A = <u>3.00</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Juniperus virginiana</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Pinus virginiana</u>	<u>15</u>	<u>Y</u>	_____	
2 <u>Dichanthelium clandestinum</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Yucca spp.</u>	<u>15</u>	<u>Y</u>	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
11 _____	_____	_____	_____	
12 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Rubus spp.</u>	<u>80</u>	<u>Y</u>	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
_____ = Total Cover 50% of total cover <u>40</u> 20% of total cover: <u>16</u>				

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No _____

Remarks: (If observed, list morphological adaptations below).
Plants are adapted to the dry sandy soil conditions.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 2	100					loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Core taken in toe of railroad spoil.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-25-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): draw Local relief (concave, convex, none): convex Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.187375 Long: -77.450239 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a wet draw and railroad ditch wetland. It is primarily forested in the draw portion and emergent herbaceous/forested/scrub-shrub in the railroad ditch portion. Field Sheet 10-A-WTL-07 wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area appears to remain ponded or saturated for long durations during the growing season. The CSX maintenance road helps pond water in the draw (there is a culvert under the road). The draw to the east transitions into very small braided channels outside the study corridor.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-25-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>40</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2 <u>Liquidambar styraciflua</u>	<u>20</u>		<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>4</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)	
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of: _____ Multiply by: _____	
6 _____				OBL species <u>40</u> x 1 = <u>40</u>	
7 _____				FACW species <u>10</u> x 2 = <u>20</u>	
8 _____				FAC species <u>115</u> x 3 = <u>345</u>	
	<u>60</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
	50% of total cover <u>30</u>	20% of total cover: <u>12</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>165</u> (A) <u>405</u> (B)	
1 <u>Acer rubrum</u>	<u>30</u>		<u>FAC</u>	Prevalence Index = B/A = <u>2.45</u>	
2 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators:	
3 <u>Alnus serrulata</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	<u>1</u> -Rapid Test for Hydrophytic Vegetation	
4 _____				<input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50%	
5 _____				<input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____				1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8 _____				Definitions of Four Vegetation Strata:	
	<u>60</u> = Total Cover			Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
	50% of total cover <u>30</u>	20% of total cover: <u>12</u>		Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
1 <u>Juncus effusus</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	Woody vines - All woody vines greater than 3.28 ft in height.	
2 <u>Eleocharis spp.</u>	<u>20</u>	<u>Y</u>			
3 <u>Eleocharis obtusa</u>	<u>10</u>	<u>N</u>	<u>OBL</u>		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>60</u> = Total Cover				
	50% of total cover <u>30</u>	20% of total cover: <u>12</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1 <u>Smilax glauca</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
	<u>5</u> = Total Cover				
	50% of total cover <u>2.5</u>	20% of total cover: <u>1</u>			

Remarks: (If observed, list morphological adaptations below).
The herb layer is primarily in the wetter portions of the railroad ditch. The forested portions shade out most of the herb layer.

SOIL

Sampling Point: **03-WTL-25-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3 / 1	95		5			sandy loam	5% organic matter
3-12	10YR 6 / 2	90	10YR 5 / 6	10			sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils were being reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-25-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-25-wet Inundated woolgrass in wetland.



03-WTL-25-wet View of wetland, facing tracks.



03-WTL-25-wet View of wetland.



03-WTL-25-wet Culvert under water.



03-WTL-25-wet View of wetland from data point.



03-WTL-25-wet Wetland soil core.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-25-upl
 Investigator(s): L. eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.187321 Long: -77.450240 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Data point on hill slope between access road and WTL-07. Soils would typically be moderately well drained, but due to a 3-day rain event are saturated. White oak and red maple are dominant vegetation species. Field Sheet 10-A-WTL-07 upDP1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>3 inches</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soils are saturated due to a 3-day rain event. Soils would typically be moderately drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-25-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Quercus alba</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3 _____				Total Number of Dominant Species Across all Strata: <u>5</u> (B)
4 _____				
5 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u> (A/B)
6 _____				
7 _____				Prevalence Index worksheet
8 _____				
<u>90</u> = Total Cover				Total % Cover of: _____ Multiply by: _____
50% of total cover <u>45</u> 20% of total cover: <u>18</u>				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				FACW species <u>4</u> x 2 = <u>8</u>
1 <u>Quercus alba</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	FAC species <u>25</u> x 3 = <u>75</u>
2 <u>Alnus serrulata</u>	<u>4</u>	<u>Y</u>	<u>FACW</u>	FACU species <u>80</u> x 4 = <u>320</u>
3 _____				UPL species <u>0</u> x 5 = <u>0</u>
4 _____				Column totals <u>109</u> (A) <u>403</u> (B)
5 _____				
6 _____				
7 _____				
8 _____				
<u>14</u> = Total Cover				Prevalence Index = B/A = <u>3.70</u>
50% of total cover <u>7</u> 20% of total cover: <u>2.8</u>				Hydrophytic Vegetation Indicators:
Herb Stratum (Plot Size: <u>5' radius</u>)				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation
1 <u>none</u>				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
2 _____				<u> </u> 3 - Prevalence Index is ≤3.0
3 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>0</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata:
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1 <u>Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
3 _____				Woody vines - All woody vines greater than 3.28 ft in height.
4 _____				
5 _____				
<u>5</u> = Total Cover				
50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: (If observed, list morphological adaptations below).
Herb layer nearly absent.

SOIL

Sampling Point: **03-WTL-25-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3 / 2	100					sandy loam	
3-12	10YR 5 / 4	95	10YR 6 / 8	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils disturbed from creation of access road and are not hydric.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-26-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): draw Local relief (concave, convex, none): convex Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.187375 Long: -77.450239 Datum: NAD-1983

Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a wet draw and railroad ditch wetland. It is primarily forested in the draw portion and emergent herbaceous/forested/scrub-shrub in the railroad ditch portion. The same wetland point was used for both 03-WTL-25-wet and 03-WTL-26-wet. Field Sheet 10-A-WTL-07 wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area appears to remain ponded or saturated for long durations during the growing season. The CSX maintenance road helps pond water in the draw (there is a culvert under the road). The draw to the east transitions into very small braided channels outside the study corridor.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-26-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Acer rubrum</u>	<u>40</u>		<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
2 <u>Liquidambar styraciflua</u>	<u>20</u>		<u>FAC</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>60</u> = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>40</u> x 1 = <u>40</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>115</u> x 3 = <u>345</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>165</u> (A) <u>405</u> (B) Prevalence Index = B/A = <u>2.45</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Acer rubrum</u>	<u>30</u>		<u>FAC</u>	
2 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Alnus serrulata</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>60</u> = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Juncus effusus</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Eleocharis spp.</u>	<u>20</u>	<u>Y</u>		
3 <u>Eleocharis obtusa</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>60</u> = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Smilax glauca</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____				

Remarks: (If observed, list morphological adaptations below).
The herb layer is primarily in the wetter portions of the railroad ditch. The forested portions shade out most of the herb layer.

SOIL

Sampling Point: **03-WTL-26-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3 / 1	95		5			sandy loam	5% organic matter
3-12	10YR 6 / 2	90	10YR 5 / 6	10			sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils were being reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-26-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-26-wet Inundated woolgrass in wetland.



03-WTL-26-wet View of wetland, facing tracks.



03-WTL-26-wet View of wetland.



03-WTL-26-wet Culvert under water.



03-WTL-26-wet View of wetland from data point.



03-WTL-26-wet Wetland soil core.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-26-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.187321 Long: -77.450240 Datum: NAD-1983

Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Data point on hill slope between access road and WTL-07. Soils would typically be moderately well drained, but due to a 3-day rain event are saturated. White oak and red maple are dominant vegetation species. The same upland point was used for 03-WTL-25-upl and 03-WTL-26-upl. Field Sheet 10-A-WTL-07 upDP1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>3 inches</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soils are saturated due to a 3-day rain event. Soils would typically be moderately drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-26-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Quercus alba</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2 <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3 _____				Total Number of Dominant Species Across all Strata: <u>5</u> (B)
4 _____				
5 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u> (A/B)
6 _____				
7 _____				Prevalence Index worksheet
8 _____				
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>4</u> x 2 = <u>8</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>109</u> (A) <u>403</u> (B)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>3.70</u>
1 <u>Quercus alba</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:
2 <u>Alnus serrulata</u>	<u>4</u>	<u>Y</u>	<u>FACW</u>	
3 _____				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
4 _____				
5 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6 _____				
7 _____				Definitions of Four Vegetation Strata:
8 _____				
<u>14</u> = Total Cover 50% of total cover <u>7</u> 20% of total cover: <u>2.8</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Herb Stratum (Plot Size: <u>5' radius</u>)				Hydrophytic vegetation present? Yes <u>X</u> No _____
1 <u>none</u>				
2 _____				Hydrophytic vegetation present? Yes <u>X</u> No _____
3 _____				
4 _____				Hydrophytic vegetation present? Yes <u>X</u> No _____
5 _____				
6 _____				Hydrophytic vegetation present? Yes <u>X</u> No _____
7 _____				
8 _____				Hydrophytic vegetation present? Yes <u>X</u> No _____
9 _____				
10 _____				Hydrophytic vegetation present? Yes <u>X</u> No _____
11 _____				
12 _____				Hydrophytic vegetation present? Yes <u>X</u> No _____
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Hydrophytic vegetation present? Yes <u>X</u> No _____
1 <u>Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2 _____				Hydrophytic vegetation present? Yes <u>X</u> No _____
3 _____				
4 _____				Hydrophytic vegetation present? Yes <u>X</u> No _____
5 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____

Remarks: (If observed, list morphological adaptations below).
Herb layer nearly absent.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3 / 2	100					sandy loam	
3-12	10YR 5 / 4	95	10YR 6 / 8	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils disturbed from creation of access road and are not hydric.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-27-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.182007 Long: -77.453786 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland is an alder thicket adjacent to Stream 5. The ground is saturated & stream is braided through the alders. Wetland is close to the boundary of the alignment where it switches back to the west side of the tracks. Note: No photographs of this wetland. Field Sheet 10-B-WTL-11 wet #1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Water-Stained Leaves (B9)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0-12</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology contributed by Stream 5 before it passes under CSX rail. Beaver activity is cause of braided nature of Stream 5 through the alders.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-27-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>125</u> (A) <u>305</u> (B) Prevalence Index = B/A = <u>2.44</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Alnus serrulata</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	
2				
3				
4				
5				
6				
7				
8				
60 = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Microstegium vimineum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Carex spp.</u>	<u>5</u>	<u>N</u>		
3 <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4				
5				
6				
7				
8				
9				
10				
11				
12				
70 = Total Cover 50% of total cover <u>35</u> 20% of total cover: <u>14</u>				Hydrophytic Vegetation Indicators: <u>1</u> -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50% <input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0 Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

Remarks: (If observed, list morphological adaptations below).

Primarily an alder swamp.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-12+	10YR 4 / 1						clay	very saturated and mucky

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-27-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 12%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.182028 Long: -77.453919 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u> X </u> Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Remarks: Upland area is a stark contrast to wetland. Elevation change is 1.5-2.5 ft. Herbaceous layer goes from a mat of Japanese stilt grass & carex species to thick smilax & honeysuckle. Note: No photographs for this wetland. Field Sheet 10-B-WTL-11-Upland 1.	

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (minimum of two required)</u>
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u>	
Water table present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u>	
Saturation present? (includes capillary fringe) Yes <u> </u> No <u> X </u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-27-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>60</u> = Total Cover 50% of total cover <u>30</u> 20% of total cover: <u>12</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>130</u> x 3 = <u>390</u> FACU species <u>25</u> x 4 = <u>100</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>155</u> (A) <u>490</u> (B) Prevalence Index = B/A = <u>3.16</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Ilex opaca</u>	<u>70</u>	<u>Y</u>	<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>70</u> = Total Cover 50% of total cover <u>35</u> 20% of total cover: <u>14</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Smilax spp.</u>	<u>20</u>	<u>Y</u>		
2 <u>Lonicera japonica</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3 <u>Juniperus virginiana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4 <u>Shagnum spp.</u>	<u>5</u>	<u>N</u>		
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>50</u> = Total Cover 50% of total cover <u>25</u> 20% of total cover: <u>10</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3 / 2	100					loam	lots of organics
3-12+	10YR 3 / 2	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **No mottles and crumbly with less clay than adjacent wetland area.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-28-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.184329 Long: -77.452529 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PFO/PSS/PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland is a railroad ditch. It is emergent herbaceous/forested/scrub-shrub. It drains to the south, but poorly. It eventually transitions into a dry ditch. Field Sheet 10-A-WTL-08 wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>12 inches</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area appears to remain ponded or saturated for long durations during the growing season.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-28-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>10</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)	
2 _____				Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Alnus serrulata</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	OBL species <u>5</u> x 1 = <u>5</u>	
2 <u>Liquidambar styraciflua</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	FACW species <u>20</u> x 2 = <u>40</u>	
3 <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	FAC species <u>45</u> x 3 = <u>135</u>	
4 _____				FACU species <u>0</u> x 4 = <u>0</u>	
5 _____				UPL species <u>0</u> x 5 = <u>0</u>	
6 _____				Column totals <u>70</u> (A) <u>180</u> (B)	
7 _____				Prevalence Index = B/A = <u>2.57</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>45</u> = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Juncus effusus</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	Definitions of Four Vegetation Strata:	
2 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>					

Remarks: (If observed, list morphological adaptations below).
20% open water from recent flooding.

SOIL

Sampling Point: **03-WTL-28-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹		
0-5	10YR 4 / 1		95	10YR 5 / 6	5			clay loam
5-12+	10YR 5 / 1		90	10YR 5 / 6	10			clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils were being reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-28-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-28-wet Inundated portion of railroad ditch wetland.



03-WTL-28-wet View of wetland



03-WTL-28-wet View of wetland



03-WTL-28-wet View of wetland



03-WTL-28-wet Railroad ditch wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-28-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 30%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.184273 Long: -77.452373 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Data point on hill slope between WTL-08 and access road. Soil is saturated due to recent rain events. Typically, soil would be moderatley well drained. Field Sheet 10-A-WTL-08 upDP1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0-3</u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soils are saturated due to a 3-day rain event. Soils would typically be moderately drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-28-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Pinus virginiana</u>	<u>90</u>	<u>Y</u>		Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u>	(A)
2 <u>Quercus stellata</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	Total Number of Dominant Species Across all Strata: <u>5</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>40.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of: _____	Multiply by: _____
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>15</u> x 3 = <u>45</u>	
	<u>95</u> = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
	50% of total cover <u>47.5</u>	20% of total cover: <u>19</u>		UPL species <u>10</u> x 5 = <u>50</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>25</u> (A) <u>95</u> (B)	
1 <u>Quercus stellata</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>	Prevalence Index = B/A = <u>3.80</u>	
2 <u>Pinus virginiana</u>	<u>5</u>	<u>Y</u>		Hydrophytic Vegetation Indicators:	
3 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5 _____				Definitions of Four Vegetation Strata:	
6 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
7 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
8 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
9 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
10 _____				Hydrophytic vegetation present? Yes _____ No <u>X</u>	
11 _____					
12 _____					
	<u>15</u> = Total Cover				
	50% of total cover <u>7.5</u>	20% of total cover: <u>3</u>			
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Ilex opaca</u>					
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
	<u>10</u> = Total Cover				
	50% of total cover <u>5</u>	20% of total cover: <u>2</u>			

Remarks: (If observed, list morphological adaptations below).
Herb layer nearly absent.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12+	10YR 6 / 3	98	10YR 6 / 6	2			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils disturbed from creation of access road.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-29-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.181752 Long: -77.453097 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is a large alder floodplain wetland. The area is adjacent to a nearby creek (Claiborne Run) that braids through the floodplain. Field Sheet 10-A-WTL-09 Alder floodplain.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The floodplain is very wet and likely receives groundwater seepage from adjacent upland as well as creek overflow.**

SOIL

Sampling Point: **03-WTL-29-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 1	95	10YR 6 / 1	5			silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils were super saturated due to recent rains.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-29-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-29-wet View of wetland from access road



03-WTL-29-wet Water from wetland covering access road



03-WTL-29-wet Water from wetland covering access road/gas ROW.



10-WTL-09-wet July 2016 photograph.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-29-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 20%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.182204 Long: -77.451974 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is an upland point near Wetland 10. It is well drained and does not have hydric soils. Delineated after a 3-day rain event. Field Sheet 10-A-WTL-09 Alder Floodplain upland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is sloping and well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-29-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Pinus virginiana</u>	<u>20</u>	<u>Y</u>		Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)
2 <u>Quercus alba</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>6</u>	(B)
3 <u>Fagus grandifolia</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>16.67%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>20</u> x 3 = <u>60</u>	
	<u>60</u> = Total Cover			FACU species <u>40</u> x 4 = <u>160</u>	
	50% of total cover <u>30</u>	20% of total cover: <u>12</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>60</u> (A) <u>220</u> (B)	
1 <u>Pinus virginiana</u>	<u>20</u>	<u>Y</u>		Prevalence Index = B/A = <u>3.67</u>	
2 _____				Hydrophytic Vegetation Indicators:	
3 _____				<u>1</u> -Rapid Test for Hydrophytic Vegetation	
4 _____				<u>2</u> - Dominance Test is >50%	
5 _____				<u>3</u> - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8 _____				Definitions of Four Vegetation Strata:	
9 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
10 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
11 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
12 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
	<u>20</u> = Total Cover			Hydrophytic vegetation present? Yes <u> </u> No <u>X</u>	
	50% of total cover <u>10</u>	20% of total cover: <u>4</u>			
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Diphasiastrum digitatum</u>	<u>20</u>	<u>Y</u>			
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>20</u> = Total Cover				
	50% of total cover <u>10</u>	20% of total cover: <u>4</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
	<u>20</u> = Total Cover				
	50% of total cover <u>10</u>	20% of total cover: <u>4</u>			

Remarks: (If observed, list morphological adaptations below).
Much of the herbaceous layer is absent due to shade from the overstory.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12+	10YR 5 / 4	95	10YR 6 / 8	5			sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils appear to be well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: June 20, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-30-wet
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.180128 Long: -77.454032 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>		

Remarks: **The wetland sample point is in the gas right of way. This is another datasheet in a series of wetlands in the Claiborne Run floodplain.**

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		<u> </u> Surface Soil Cracks (B6)
<u>X</u> Surface Water (A1)	<u>X</u> Aquatic Fauna (B13)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> High Water Table (A2)	<u> </u> Marl Deposits (B15) (LRR U)	<u>X</u> Drainage Patterns (B10)
<u>X</u> Saturation (A3)	<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)	<u>X</u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled Soils (C6)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Thin Muck Surface (C7)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Other (Explain in Remarks)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)		<u> </u> FAC-Neutral Test (D5)
<u> </u> Water-Stained Leaves (B9)		<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations:		Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Surface water present?	Yes <u>X</u> No <u> </u> Depth (inches): <u>5"</u>	
Water table present?	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? (includes capillary fringe)	Yes <u>X</u> No <u> </u> Depth (inches): <u>Surface</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area varies from saturated to inundated throughout the wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-30-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status	
1	Leersia oryzoides	90	Y	OBL
2	Sagittaria latifolia	3	N	OBL
3	Dichanthelium clandestinum	8	Rank error!	FACW
4	Dichanthelium dichotomum	2	N	FAC
5				
6				
7				
8				
9				
10				
11				
12				

103 = Total Cover
 50% of total cover: **51.5** 20% of total cover: **20.6**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
 Total Number of Dominant Species Across all Strata: _____ (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column totals _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 Problematic Hydrophytic Vegetation¹ (Explain)

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No _____

Remarks: (If observed, list morphological adaptations below).
Very dense stand of ricecut grass.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 3.0 / 1	100					Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **The sample point is in the gas right of way. The soils are likely disturbed from maintenance activities. The dark color of the soil is likely masking the redox features in the soil core.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-30-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 7

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: June 20, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-30-upl
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Elevated roadway Local relief (concave, convex, none): _____ Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.180127 Long: -77.454093 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No _____ (If no, explain in Remarks.)
 Are vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "normal circumstances" present? Yes X No _____
 Are vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		

Remarks: **This is an upland point near wetland 1a. It lacks hydrology and requist soils. Field Sheet: 6-B-WTL-3**

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		_____ Surface Soil Cracks (B6)
_____ Surface Water (A1)	_____ Aquatic Fauna (B13)	_____ Sparsely Vegetated Concave Surface (B8)
_____ High Water Table (A2)	_____ Marl Deposits (B15) (LRR U)	_____ Drainage Patterns (B10)
_____ Saturation (A3)	_____ Hydrogen Sulfide Odor (C1)	_____ Moss Trim Lines (B16)
_____ Water Marks (B1)	_____ Oxidized Rhizospheres on Living Roots (C3)	_____ Dry-Season Water Table (C2)
_____ Sediment Deposits (B2)	_____ Presence of Reduced Iron (C4)	_____ Crayfish Burrows (C8)
_____ Drift Deposits (B3)	_____ Recent Iron Reduction in Tilled Soils (C6)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Algal Mat or Crust (B4)	_____ Thin Muck Surface (C7)	_____ Geomorphic Position (D2)
_____ Iron Deposits (B5)	_____ Other (Explain in Remarks)	_____ Shallow Aquitard (D3)
_____ Inundation Visible on Aerial Imagery (B7)		_____ FAC-Neutral Test (D5)
_____ Water-Stained Leaves (B9)		_____ Sphagnum moss (D8) (LRR T, U)

Field Observations:		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface water present? Yes _____ No <u>X</u>	Depth (inches): _____	
Water table present? Yes _____ No <u>X</u>	Depth (inches): _____	
Saturation present? Yes _____ No <u>X</u>	Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The upland sample point is elevated above the wetland area. It is located next to a maintenance road. The area is moderately well-drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-30-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Liquidambar styraciflua	60	Y	FAC
2			
3			
4			
5			
6			
7			
8			

60 = Total Cover
 50% of total cover: **30** 20% of total cover: **12**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Vaccinium corymbosum	10	Y	FACW
2 Liquidambar styraciflua	5	Y	FAC
3 Juniperus virginiana	5	Y	FACU
4 Clethra alnifolia	5	Y	
5			
6			
7			
8			

25 = Total Cover
 50% of total cover: **12.5** 20% of total cover: **5**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Rubus flagellaris	20	Y	UPL
2 Quercus rubra	5	N	FACU
3 Ilex opaca	5	N	FAC
4			
5			
6			
7			
8			
9			
10			
11			
12			

30 = Total Cover
 50% of total cover: **15** 20% of total cover: **6**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Smilax glauca	5	Y	FAC
2			
3			
4			
5			

5 = Total Cover
 50% of total cover: **2.5** 20% of total cover: **1**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across all Strata: **7** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **57.14%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 10	x 2 = 20
FAC species 75	x 3 = 225
FACU species 10	x 4 = 40
UPL species 20	x 5 = 100
Column totals 115 (A)	385 (B)

Prevalence Index = B/A = **3.35**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
The upland point is on the margin of a PFO/PEM habitat.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3.0 / 1	100					Sandy loam	Coal ash present in soil

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soil is likely disturbed. The sample point is within a gas right of way next to a maintenance road on. Soils are moderately well-drained. 5-10% slope.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-31-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.178153 Long: -77.456004 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland is similar to Wetland 7, which was also a railroad ditch wetland. Note: No photographs were taken of this railroad ditch wetland, and it has very low functional values. Field Sheet 10-WTL-10-wet 1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Water Marks (B1)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Geomorphic Position (D2)
<u> </u> Sediment Deposits (B2)	<u> </u> Shallow Aquitard (D3)
<u> </u> Presence of Reduced Iron (C4)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Drift Deposits (B3)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Algal Mat or Crust (B4)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Iron Deposits (B5)	
<u> </u> Other (Explain in Remarks)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u> </u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Railroad ditch that remains saturated and ponds water for long durations.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-31-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Juncus effusus</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Carex spp.</u>	<u>15</u>	<u>Y</u>		
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>37.5</u> 20% of total cover: <u>15</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <u>X</u> No _____				
Remarks: (If observed, list morphological adaptations below).				

SOIL

Sampling Point: **03-WTL-31-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-12	10YR 5 / 1	90	7.5YR 5 / 8	10			clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Rail side ditch.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-31-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.178153 Long: -77.456074 Datum: NAD-1983

Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland data point near railroad ditch wetland. Field Sheet 10-WTL-10-Up1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland that is moderately well drained.**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-2	10YR 3 / 2	100					loam	lots of organics
2-12+	10YR 5 / 3	60	7.5YR 5 / 6	40			clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-32-wet-1
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.176383 Long: -77.457139 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland part of same wetland/stream/floodplain system as wetlands 8, 9, & 11 along Claiborne Run. Field Sheet 10-A-WTL-10 wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u>3</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Some surface water is present in wetland, especially in rutted areas. Soil is saturated.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-32-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Carex spp.</u>	<u>40</u>	<u>Y</u>		
2 <u>Bolboschoenus fluviatilis</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Bidens spp.</u>	<u>10</u>	<u>N</u>		
4 <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Much of the vegetation is mowed or disturbed. The mowed and senesced Carex cannot be identified to species.

SOIL

Sampling Point: **03-WTL-32-wet-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)	%		Color (moist)	%	Type ¹		
0-5	10YR 3 / 1	95		10YR 4 / 6	5			clay loam
5-12+	10YR 6 / 2	90		10YR 5 / 8	10			clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are clearly reducing, but there is a lot of disturbance in this area from roadway/equipment activities.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-32-wet-1

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-32-wet-1 Floodplain wetland view of gasoline ROW adjacent tracks.



03-WTL-32-wet-1 Floodplain wetland, view of inundated access road.



10-WTL-10-wet July 2014 wetland vegetation.



10-WTL-10-wet July 2014 wetland vegetation.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-32-upl-1
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): base of ballast Local relief (concave, convex, none): none Slope (%): 15%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.176461 Long: -77.457201 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil X, or Hydrology significantly disturbed? Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Data point at base of railroad ballast on slight slope. Soil is coal-like, gritty, and well drained. Field Sheet 10-A-WTL-10 upDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil (coal-like) is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-32-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Dichanthelium clandestinum</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Bidens spp.</u>	<u>20</u>	<u>Y</u>		
3 <u>Panicum spp.</u>	<u>5</u>	<u>N</u>		
4 <u>Sorghum halepense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).
No tree or sapling stratum.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12+	10YR 3 / 1	100					sand	coal-like & gritty

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils impacted by railroad. Coal-like and gritty (black).**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: June 20, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-32-wet-2
 Investigator(s): L. Eggering Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.176748 Long: -77.456899 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>		

Remarks: **This is another portion of the series of Claiborne Run wetlands in the floodplain. It will connect to previously delineated areas. The sample point lies between a maintained gas ROW and line of trees, then the CSX ballast.**

Note: this wetland is part of Segment 10, and was one of the rework areas.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)		___ Surface Soil Cracks (B6)	
<u>X</u> Surface Water (A1)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)	
___ High Water Table (A2)	___ Marl Deposits (B15) (LRR U)	___ Drainage Patterns (B10)	
<u>X</u> Saturation (A3)	<u>X</u> Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)	
___ Water Marks (B1)	<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)	
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	<u>X</u> Crayfish Burrows (C8)	
___ Drift Deposits (B3)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)	
___ Algal Mat or Crust (B4)	___ Thin Muck Surface (C7)	___ Geomorphic Position (D2)	
___ Iron Deposits (B5)	___ Other (Explain in Remarks)	___ Shallow Aquitard (D3)	
___ Inundation Visible on Aerial Imagery (B7)		___ FAC-Neutral Test (D5)	
___ Water-Stained Leaves (B9)		___ Sphagnum moss (D8) (LRR T, U)	

Field Observations:				Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Surface water present?	Yes <u>X</u> No <u> </u>	Depth (inches):	<u>2"</u>	
Water table present?	Yes <u> </u> No <u>X</u>	Depth (inches):	<u> </u>	
Saturation present? (includes capillary fringe)	Yes <u>X</u> No <u> </u>	Depth (inches):	<u>8'</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The bottom of the wetland undulates. In places it is dry, in others it is saturated; it is inundated in low areas. A slight sulfide odor was observed.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-32-wet-2**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	40	Y	FAC
2			
3			
4			
5			
6			
7			
8			

40 = Total Cover
 50% of total cover: **20** 20% of total cover: **8**

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Alnus serrulata	20	Y	FACW
2 Clethra alnifolia	20	Y	FACW
3 Liquidambar styraciflua	10	Y	FAC
4			
5			
6			
7			
8			

50 = Total Cover
 50% of total cover: **25** 20% of total cover: **10**

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1 Microstegium vimineum	40	Y	FAC
2 Juncus effusus	10	Y	OBL
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

50 = Total Cover
 50% of total cover: **25** 20% of total cover: **10**

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: **0** 20% of total cover: **0**

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **6** (A)

Total Number of Dominant Species Across all Strata: **6** (B)

Percent of Dominant Species that are OBL, FACW, or FAC: **100.00%** (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species 10	x 1 = 10
FACW species 40	x 2 = 80
FAC species 90	x 3 = 270
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column totals 140 (A)	360 (B)

Prevalence Index = B/A = **2.57**

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
The wetland point was taken at the edge of the tree line and a gas ROW.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR	3 / 1	100					Sandy loam	
3-12	10YR	5 / 2	90	10YR	5 / 8	5		Sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks: **More clay is present in the bottom 9 inches of the soil core.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-32-wet-2

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-32-wet-2 Claiborne Run wetland.



03-WTL-32-wet-2 Habitat in Claiborne Run wetlands.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: June 20, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-32-upl-2
 Investigator(s): L. Eggering Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe ballast Local relief (concave, convex, none): Convex Slope (%): 4%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.176793 Long: -77.456988 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks: **This is the upland point for the south end of the wetland 1a which connects to previously delineated wetlands.**
Field Sheet: 21-WTL-01aSouth-upl

Note: These points are part of Segment 10 and were part of the rework areas.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	<u> </u> Surface Soil Cracks (B6)
<u> </u> Surface Water (A1)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> High Water Table (A2)	<u> </u> Drainage Patterns (B10)
<u> </u> Saturation (A3)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Water-Stained Leaves (B9)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Aquatic Fauna (B13)	
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is moderately well-drained near the CSX ballast.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-32-upl-2**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1	Setaria viridis 60	Y	
2	Rubus flagellaris 20	Y	UPL
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

80 = Total Cover
 50% of total cover: 40 20% of total cover: 16

Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			

0 = Total Cover
 50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>20</u>	x 5 = <u>100</u>
Column totals <u>20</u> (A)	<u>100</u> (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).
Toe of ballast vegetation is somewhat sparse.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR	3 / 1	100					Rock and coal ash.

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: Coal ash mixed with rock from the ballast. Rock was 90% of the core.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-33-wet
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.17146 Long: -77.458537 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This wetland is part of the same stream and floodplain (Claiborne Run) system as wetlands 8, 9, and 10. The easternmost portion is an alder dominated floodplain. Field Sheet 10-A-WTL-11 wetDP1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6 inches</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Some areas are rutted with standing water, but the majority is just saturated.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-33-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Acer rubrum</u>	<u>20</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
2 _____				Total Number of Dominant Species Across all Strata: _____ (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) _____ ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5 _____				
6 _____				
7 _____				
8 _____				
<u>20</u> = Total Cover 50% of total cover <u>10</u> 20% of total cover: <u>4</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Alnus serrulata</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Juncus effusus</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Carex spp.</u>	<u>5</u>	<u>Y</u>		
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____				

Remarks: (If observed, list morphological adaptations below).
The area near the roadway is disturbed with vehicle ruts and mowing. The Carex cannot be identified to species.

SOIL

Sampling Point: **03-WTL-33-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 6 / 2	90	10YR 6 / 8	10			clay loam	
3-12+	10YR 4 / 1	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are being reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-33-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-33-wet View of wetland in gas ROW



03-WTL-33-wet Inundated portions of wetland.



03-WTL-33-wet Wetland soil core



03-WTL-33-wet Wetland soil



03-WTL-33-wet Wetland soil

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-33-upl
 Investigator(s): L. Eggering, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): base of ballast Local relief (concave, convex, none): none Slope (%): 20%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.171364 Long: -77.45861 Datum: NAD-1983
 Soil Map Unit Name: Udothents-Udifluents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil X, or Hydrology significantly disturbed? Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>	
Remarks: Upland point taken at base of railroad ballast. Soil is coal-like and gritty, well-drained. Field Sheet 10-A-WTL-11 upDP1.		

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? (includes capillary fringe) Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Soil is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-33-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>25</u> (A) <u>90</u> (B) Prevalence Index = B/A = <u>3.60</u> Hydrophytic Vegetation Indicators: ___ 1 -Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Juniperus virginiana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2				
3				
4				
5				
6				
7				
8				
_____ = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Panicum spp.</u>	<u>30</u>	<u>Y</u>		
2 <u>Phytolacca americana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3 <u>Dichanthelium clandestinum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4				
5				
6				
7				
8				
9				
10				
11				
12				
_____ = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes _____ No <u>X</u>
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Herbicide may have been applied to toe of railroad ballast.

SOIL

Sampling Point: **03-WTL-33-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 3 / 1	100					sand	coal-like

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soil from base of ballast. Soil is coal-like and gritty fill material.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-34-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.171361 Long: -77.458925 Datum: NAD-1983
 Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This PSS wetland is in the floodplain near Claiborne Run. Note: Photos from December 2015 and July 2016 were added. Field Sheet 10-WTL-09-wet 1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Saturated at 6 inches.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-34-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Acer rubrum</u>	<u>15</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2 _____				Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>15</u> = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Alnus serrulata</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	OBL species <u>5</u> x 1 = <u>5</u>	
2 <u>Acer rubrum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	FACW species <u>20</u> x 2 = <u>40</u>	
3 _____				FAC species <u>70</u> x 3 = <u>210</u>	
4 _____				FACU species <u>0</u> x 4 = <u>0</u>	
5 _____				UPL species <u>5</u> x 5 = <u>25</u>	
6 _____				Column totals <u>100</u> (A) <u>280</u> (B)	
7 _____				Prevalence Index = B/A = <u>2.80</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>25</u> = Total Cover 50% of total cover <u>12.5</u> 20% of total cover: <u>5</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Microstegium vimineum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Definitions of Four Vegetation Strata:	
2 <u>Carex spp.</u>	<u>5</u>	<u>N</u>		Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 <u>Scirpus cyperinus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 <u>Rubus flagellaris</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>65</u> = Total Cover 50% of total cover <u>32.5</u> 20% of total cover: <u>13</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Alder thicket with good herbaceous layer. Adjacent upland on west side of stream has very different herb layer.

SOIL

Sampling Point: **03-WTL-34-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-1	10YR 5 / 3	100					sandy clay	
1-12+	10YR 5 / 1	85	7.5YR 6 / 6	15			clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: B-10-WTL-09

Project/Site: DC2RVA-Segment 10

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



10-B-WTL-09-wet PSS habitat in wetland
December 2015.



10-B-WTL-09-wet Alder swamp in July 2016.



10-B-WTL-09-wet July 2016 south end of wetland
across CSX ROW.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-34-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 4%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.171360 Long: -77.458894 Datum: NAD-1983

Soil Map Unit Name: Udorthents-Udifluvents complex, gently sloping NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: This is the upland sample point for wetland 9. It is moderately well drained. Field Sheet 10-WTL-09-Up.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland data point is moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-34-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Prunus serotina</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>5</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____	<u>30</u>	= Total Cover		OBL species <u>0</u>	x 1 = <u>0</u>
7 _____	<u>15</u>	50% of total cover		FACW species <u>0</u>	x 2 = <u>0</u>
8 _____	<u>6</u>	20% of total cover:		FAC species <u>0</u>	x 3 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				FACU species <u>45</u>	x 4 = <u>180</u>
1 <u>Prunus serotina</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	UPL species <u>15</u>	x 5 = <u>75</u>
2 <u>Pinus virginiana</u>	<u>5</u>	<u>Y</u>		Column totals <u>60</u>	(A) <u>255</u> (B)
3 _____				Prevalence Index = B/A = <u>4.25</u>	
4 _____				Hydrophytic Vegetation Indicators:	
5 _____				___ 1 -Rapid Test for Hydrophytic Vegetation	
6 _____				___ 2 - Dominance Test is >50%	
7 _____				___ 3 - Prevalence Index is ≤3.0	
8 _____				___ Problematic Hydrophytic Vegetation ¹ (Explain)	
9 _____	<u>15</u>	= Total Cover		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
10 _____	<u>7.5</u>	50% of total cover		Definitions of Four Vegetation Strata:	
11 _____	<u>3</u>	20% of total cover:		Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
12 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
Herb Stratum (Plot Size: <u>5' radius</u>)				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
1 <u>Solidago spp.</u>	<u>15</u>	<u>Y</u>		Woody vines - All woody vines greater than 3.28 ft in height.	
2 <u>Rubus flagellaris</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>	Hydrophytic vegetation present? Yes _____ No <u>X</u>	
3 <u>Schizachyrium scoparium</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
4 <u>Rubus spp.</u>	<u>5</u>	<u>N</u>			
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>40</u> = Total Cover					
50% of total cover <u>20</u>					
20% of total cover: <u>8</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover					
50% of total cover <u>0</u>					
20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Much of the vegetation was senesced.

SOIL

Sampling Point: **03-WTL-34-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-5	10YR	4 / 3	100					sandy clay	
5-12+	10YR	5 / 3	100					sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils are not reduced.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-35-wet-1
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.164545 Long: -77.457633 Datum: NAD-1983
 Soil Map Unit Name: Fluvaquents-Udifuluents complex NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This sample point is very similar to wet-1 data point. Field Sheet 10-B-WTL-06-Wet2.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Water Marks (B1)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Geomorphic Position (D2)
<u> </u> Sediment Deposits (B2)	<u> </u> Shallow Aquitard (D3)
<u> </u> Presence of Reduced Iron (C4)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Drift Deposits (B3)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Iron Deposits (B5)	
<u> </u> Other (Explain in Remarks)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u> </u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Very similar to data point Wet-1. High water table. Area of wetland seems to flow through gas line corridor south until it intersects with Stream 3.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-35-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Acer rubrum</u>	<u>40</u>		<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
2 <u>Liquidambar styraciflua</u>	<u>20</u>		<u>FAC</u>	
3				
4				
5				
6				
7				
8				
50% of total cover <u>30</u>		Total Cover <u>60</u>		Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>75</u> x 3 = <u>225</u> FACU species <u>2</u> x 4 = <u>8</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>77</u> (A) <u>233</u> (B) Prevalence Index = B/A = <u>3.03</u>
20% of total cover: <u>12</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Alnus spp.</u>	<u>10</u>	<u>Y</u>		
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>5</u>		Total Cover <u>10</u>		
20% of total cover: <u>2</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Microstegium vimineum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Lonicera japonica</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>8.5</u>		Total Cover <u>17</u>		
20% of total cover: <u>3.4</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u>		Total Cover <u>0</u>		
20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes _____ No <u>X</u>				

Remarks: (If observed, list morphological adaptations below).
Vegetation described is found in a narrow strip of PFO between railroad ballast and gas line corridor. Vegetation in gas line corridor is highly disturbed.

SOIL

Sampling Point: **03-WTL-35-wet-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-6	10YR 4 / 1						sandy clay	
6-12+	10YR 6 / 1						sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Highly reduced.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-35-upl-1
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ballast hillslope Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.162467 Long: -77.456763 Datum: NAD-1983
 Soil Map Unit Name: Wehadkee silt loam, 0 to 2 percent slopes, frequently flooded NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland point is on railroad ballast. Wetland is present abutting the ballast and extends the length of the project area on this portion of the alignment that is east of the railroad tracks. Normal conditions, but not natural. Field Sheet 10-B-WTL-06-Up2.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **None due to railroad ballast.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-35-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Juniperus virginiana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>1</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
4 _____	_____	_____	_____	Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>10</u> (A) <u>40</u> (B) Prevalence Index = B/A = <u>4.00</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>none</u>	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
11 _____	_____	_____	_____	
12 _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes _____ No <u>X</u>				

Remarks: (If observed, list morphological adaptations below).
Eastern red cedar growing on ballast, other vegetation mostly absent.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12								rock and fill from ballast

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Railroad ballast rock and black sand fill material (not possible to get core sample).**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-35-wet-2
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.164916 Long: -77.457803 Datum: NAD-1983
 Soil Map Unit Name: Fluvaquents-Udifuvents complex NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Site along gas line corridor & includes an area with large equipment traffic that appears to be clearing/bush hogging corridor. PFO on both sides of corridor with area west of corridor and east of tracks being a thin strip of PFO. PFO east of gas line corridor appears to continue to a junk yard. Large wetland area. Field Sheet 10-B-wet 06 wet 1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>4 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area is a large PFO with a high water table. Area of wetland seems to flow through gas line corridor south until the gas line corridor intersects with Stream 3.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-35-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>10</u>		FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2 <u>Acer rubrum</u>	<u>10</u>		FAC	Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>20</u> = Total Cover 50% of total cover <u>10</u> 20% of total cover: <u>4</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Alnus spp.</u>	<u>10</u>	Y		OBL species <u>0</u> x 1 = <u>0</u>	
2 _____				FACW species <u>0</u> x 2 = <u>0</u>	
3 _____				FAC species <u>25</u> x 3 = <u>75</u>	
4 _____				FACU species <u>0</u> x 4 = <u>0</u>	
5 _____				UPL species <u>0</u> x 5 = <u>0</u>	
6 _____				Column totals <u>25</u> (A) <u>75</u> (B)	
7 _____				Prevalence Index = B/A = <u>3.00</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Microstegium vimineum</u>	<u>5</u>	Y	FAC	Definitions of Four Vegetation Strata:	
2 <u>Carex spp.</u>	<u>2</u>	Y		Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>7</u> = Total Cover 50% of total cover <u>3.5</u> 20% of total cover: <u>1.4</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Vegetation described above is found in a narrow strip of PFO between railroad and gas line corridor. Vegetation in gas line corridor is highly disturbed and appears to be Japanese stilt grass.

SOIL

Sampling Point: **03-WTL-35-wet-2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4 / 1						sandy clay	
6-12+	10YR 6 / 1						sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Wet mucky soils, highly reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-35-wet-2

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-35-wet-2 Wetland drains to this stream.



03-WTL-35-wet-2 Wetland soil.



03-WTL-35-wet-2 View of ruts in gas line ROW.



10-WTL-06-wet-01 Inundation in wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-35-upl-2
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ballast hillslope Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.165055 Long: -77.457981 Datum: NAD-1983
 Soil Map Unit Name: Fluvaquents-Udifulvents complex NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil X, or Hydrology significantly disturbed? Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Railroad ballast, sumping the edge of ballast. The wetland abuts railroad ballast. Field Sheet 10-WTL-06-Up1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Ballast is well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-35-upl-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: ___ 1 -Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
				Hydrophytic vegetation present? Yes _____ No <u>X</u>
Remarks: (If observed, list morphological adaptations below). <p style="text-align: center;">None present, railroad ballast.</p>				

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12								rock and sand fill on ballast

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Railroad ballast fill material (not possible to get a core sample).**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-36-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): railroad ditch Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.16976 Long: -77.458765 Datum: NAD-1983
 Soil Map Unit Name: Dystrochrepts-Udults complex, steep NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Railroad ditch wetland that receives seep water and runoff from adjacent hillside. Field Sheet 10B wetland-08 wet#1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Water Marks (B1)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Geomorphic Position (D2)
<u> </u> Sediment Deposits (B2)	<u> </u> Shallow Aquitard (D3)
<u> </u> Presence of Reduced Iron (C4)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Drift Deposits (B3)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Iron Deposits (B5)	
<u> </u> Other (Explain in Remarks)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u> </u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>8 inches</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>8 inches</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology likely runoff and seep water from hillside adjacent to rail.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-36-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2.50</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Microstegium vimineum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Carex spp.</u>	<u>10</u>	<u>N</u>		
3 <u>Scirpus cyperinus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4 <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5				
6				
7				
8				
9				
10				
11				
12				
_____ = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
				Hydrophytic vegetation present? Yes <u>X</u> No _____

Remarks: (If observed, list morphological adaptations below).
All herbaceous. Adjacent hillside (upland) lacks herb vegetation. Carex species was denuded making identification to species impossible.

SOIL

Sampling Point: **03-WTL-36-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12+	10YR 6 / 1	85	7.5YR 5 / 8	15			clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Very reduced soils. Typical of railside wetlands in this area.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-36-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	0	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	0	

Total Score 2

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-36-wet View of railroad ditch wetland.



03-WTL-36-wet View of wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-36-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 20%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.169744 Long: -77.458736 Datum: NAD-1983
 Soil Map Unit Name: Dystrochrepts-Udults complex, steep NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland data point is located on hillslope parallel to railroad ballast. Field Sheet 10-B-wetland 8 upland #1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	
Field Observations:	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Area is very well drained.	

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-36-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Pinus virginiana</u>	<u>10</u>	<u>Y</u>		Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2 _____				Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>5</u> (A) <u>20</u> (B) Prevalence Index = B/A = <u>4.00</u>
5 _____				
6 _____				
7 _____				
8 _____				
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Pinus virginiana</u>	<u>5</u>	<u>Y</u>		
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Schizachyrium scoparium</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes _____ No <u>X</u>				

Remarks: (If observed, list morphological adaptations below).
Few herbaceous plants present. One fairly large Virginia pine.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-1	10YR 3 / 2						loam	lots of organics
1-12+	10YR 5 / 3						clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **No mottles and much drier than railroad ditch soils.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-37-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.168003 Long: -77.458605 Datum: NAD-1983
 Soil Map Unit Name: Fluvaquents-Udifuvents complex NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is the second wetland data point for the PFO wetland 7. Field Sheet 10-WTL-07-wet-2.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Water Marks (B1)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Geomorphic Position (D2)
<u> </u> Sediment Deposits (B2)	<u> </u> Shallow Aquitard (D3)
<u> </u> Presence of Reduced Iron (C4)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Drift Deposits (B3)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Algal Mat or Crust (B4)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Iron Deposits (B5)	
<u> </u> Other (Explain in Remarks)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u> </u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>4 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area remains inundated in places and saturated to the surface for long durations.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-37-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Acer rubrum</u>	<u>40</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 <u>Betula nigra</u>	<u>20</u>		<u>FACW</u>	
3 <u>Liquidambar styraciflua</u>	<u>10</u>		<u>FAC</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>70</u> = Total Cover 50% of total cover <u>35</u> 20% of total cover: <u>14</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>50</u> x 3 = <u>150</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>70</u> (A) <u>190</u> (B) Prevalence Index = B/A = <u>2.71</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1 <u>Smilax spp.</u>	<u>3</u>			
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>3</u> = Total Cover 50% of total cover <u>1.5</u> 20% of total cover: <u>0.6</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <u>X</u> No _____				

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **03-WTL-37-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 1	80	10YR 6 / 8	20			clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-37-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 7

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-37-wet View of PFO portion of wetland



03-WTL-37-wet View of wetland beginning to slope upward.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-37-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liriodendron tulipifera</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u>	(A)
2 <u>Fagus grandifolia</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across all Strata: <u>5</u>	(B)
3 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>40.00%</u>	(A/B)
4 <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
5 _____					
6 _____					
7 _____					
8 _____					
<u>70</u> = Total Cover 50% of total cover <u>35</u> 20% of total cover: <u>14</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: _____ Multiply by: _____	
1 <u>Ilex opaca</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>0</u> x 1 = <u>0</u>	
2 <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	FACW species <u>0</u> x 2 = <u>0</u>	
3 _____				FAC species <u>45</u> x 3 = <u>135</u>	
4 _____				FACU species <u>55</u> x 4 = <u>220</u>	
5 _____				UPL species <u>0</u> x 5 = <u>0</u>	
6 _____				Column totals <u>100</u> (A) <u>355</u> (B)	
7 _____					
8 _____					
<u>25</u> = Total Cover 50% of total cover <u>12.5</u> 20% of total cover: <u>5</u>				Prevalence Index = B/A = <u>3.55</u>	
Herb Stratum (Plot Size: <u>5' radius</u>)				Hydrophytic Vegetation Indicators:	
1 <u>Sphagnum affine</u>	<u>80</u>	<u>Y</u>		<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Ilex opaca</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	<input type="checkbox"/> 2 - Dominance Test is >50%	
3 <u>Smilax spp.</u>	<u>5</u>	<u>N</u>		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0	
4 _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Definitions of Four Vegetation Strata:	
1 <u>none</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
2 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
3 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
4 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic vegetation present? Yes _____ No <u>X</u>	

Remarks: (If observed, list morphological adaptations below).

No indicator for moss.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-1	10YR 3 / 2						loam	lots of organics
1-4	10YR 4 / 2						loam	
4-12+	10YR 5 / 3						loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Loamy with high organics**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-38-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.167025 Long: -77.458448 Datum: NAD-1983
 Soil Map Unit Name: Fluvaquents-Udifuvents complex NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland is present at the edge of railroad ballast and hillslope (i.e. railside wetland). Field Sheet 10-WTL-07 wet 1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-38-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>none</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
2				
3				
4				
5				
6				
7				
8				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>7</u> x 1 = <u>7</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>12</u> (A) <u>22</u> (B) Prevalence Index = B/A = <u>1.83</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1 <u>Microstegium vimineum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2 <u>Carex spp.</u>	<u>5</u>	<u>Y</u>		
3 <u>Scirpus cyperinus</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
4 <u>Juncus effusus</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
5				
6				
7				
8				
9				
10				
11				
12				
_____ = Total Cover 50% of total cover <u>8.5</u> 20% of total cover: <u>3.4</u>				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic vegetation present? Yes <u>X</u> No _____

Remarks: (If observed, list morphological adaptations below).

Mainly herbaceous vegetation.

SOIL

Sampling Point: **03-WTL-38-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 6 / 1	70	7.5YR 5 / 6	30			clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-38-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-38-wet View of PEM portion of wetland and
Culvert 06



03-WTL-38-wet View of wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Spotsylvania Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-38-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.166630 Long: -77.458416 Datum: NAD-1983
 Soil Map Unit Name: Fluvaquents-Udifuluents complex NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland?		
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>		Yes <u> </u>	No <u>X</u>
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>			
Remarks: Upland point is located on hillslope parallel to railroad ballast and wetland. Field Sheet 10-WTL-07-Up1.					

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? (includes capillary fringe) Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Well drained hillslope.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-38-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Quercus virginiana</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u>	(A)
2 <u>Pinus virginiana</u>	<u>10</u>	<u>Y</u>		Total Number of Dominant Species Across all Strata: <u>3</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>0</u> x 3 = <u>0</u>	
	<u>40</u> = Total Cover			FACU species <u>30</u> x 4 = <u>120</u>	
	50% of total cover <u>20</u>	20% of total cover: <u>8</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>30</u> (A) <u>120</u> (B)	
1 <u>Pinus virginiana</u>	<u>10</u>	<u>Y</u>		Prevalence Index = B/A = <u>4.00</u>	
2 _____				Hydrophytic Vegetation Indicators:	
3 _____				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
4 _____				<u> </u> 2 - Dominance Test is >50%	
5 _____				<u> </u> 3 - Prevalence Index is ≤3.0	
6 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7 _____					
8 _____					
	<u>10</u> = Total Cover			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	50% of total cover <u>5</u>	20% of total cover: <u>2</u>		Definitions of Four Vegetation Strata:	
Herb Stratum (Plot Size: <u>5' radius</u>)				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1 <u>none</u>				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
3 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	<u>0</u> = Total Cover			Hydrophytic vegetation present? Yes <u> </u> No <u>X</u>	
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	<u>0</u> = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **03-WTL-38-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 3 / 3						silt	lots of organics
3-12+	10YR 5 / 3						silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **0-3" layer is silt with lots of organics**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-39-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.160022 Long: -77.455803 Datum: NAD-1983
 Soil Map Unit Name: Wehadkee silt loam, 0 to 2 percent slopes, frequently flooded NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This primarily bottomland hardwood wetland is north and south of Claiborne Crossing Road. It has strong hydrology indicators and hydric soils. Field Sheet 10-WTL-04-wet.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Water Marks (B1)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Geomorphic Position (D2)
<u> </u> Presence of Reduced Iron (C4)	<u> </u> Shallow Aquitard (D3)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Thin Muck Surface (C7)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Other (Explain in Remarks)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u> </u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>4 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology likely due to high water table. Claiborne Crossing Road acts as a dam separating wetland 4 & 5. No culvert is present connecting the two, but hydrologic connection is likely.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-39-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>40</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2 <u>Quercus palustris</u>	<u>30</u>		<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
3 <u>Acer rubrum</u>	<u>15</u>		<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)	
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>85</u> x 3 = <u>255</u> FACU species <u>7</u> x 4 = <u>28</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>122</u> (A) <u>343</u> (B) Prevalence Index = B/A = <u>2.81</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
<u>85</u> = Total Cover					
50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>Juniperus virginiana</u>	<u>2</u>	<u>N</u>	<u>FACU</u>		
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>2</u> = Total Cover					
50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Microstegium vimineum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____	
2 <u>Carex spp.</u>	<u>10</u>	<u>Y</u>			
3 <u>Lonicera japonica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>45</u> = Total Cover					
50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover					
50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Water marks observed on the trees.

SOIL

Sampling Point: **03-WTL-39-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 1						sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input checked="" type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils appear to be strongly reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-39-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-39-wet Area south of Claiborne Crossing Road.



03-WTL-39-wet Wetland north of Claiborne Crossing Road.



03-WTL-39-wet Water marks and inundation in wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-39-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): raised terrace Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.159743 Long: -77.455579 Datum: NAD-1983
 Soil Map Unit Name: Wehadkee silt loam, 0 to 2 percent slopes, frequently flooded NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u> X </u> Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Remarks: This is the upland point for the wetland north and south of Claiborne Crossing Road. Field Sheet 10-WTL-04-Up.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland data point that is moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-39-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	50	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u>	(A)
2 <u>Acer rubrum</u>	10	N	FAC	Total Number of Dominant Species Across all Strata: <u>7</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>71.43%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>100</u> x 3 = <u>300</u>	
	60 = Total Cover			FACU species <u>20</u> x 4 = <u>80</u>	
	50% of total cover <u>30</u>	20% of total cover: <u>12</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>120</u> (A) <u>380</u> (B)	
1 <u>Liquidambar styraciflua</u>	15	Y	FAC	Prevalence Index = B/A = <u>3.17</u>	
2 <u>Acer rubrum</u>	15	Y	FAC	Hydrophytic Vegetation Indicators:	
3 <u>Juniperus virginiana</u>	10	Y	FACU	<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4 <u>Cornus florida</u>	5	N	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5 _____				Definitions of Four Vegetation Strata:	
6 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
7 _____					
8 _____					
9 _____					
10 _____					
11 _____				Hydrophytic vegetation present? Yes <u>X</u> No _____	
12 _____					
	45 = Total Cover				
	50% of total cover <u>22.5</u>	20% of total cover: <u>9</u>			
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Microstegium vimineum</u>	5	Y	FAC		
2 <u>Lonicera japonica</u>	5	Y	FACU		
3 <u>Smilax rotundifolia</u>	5	Y	FAC		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	15 = Total Cover				
	50% of total cover <u>7.5</u>	20% of total cover: <u>3</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	0 = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).
Eastern red cedar and flowering dogwood are present in upland area and not in wetland.

SOIL

Sampling Point: **03-WTL-39-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 5 / 2						sandy clay	
3+	10YR 5 / 4						sand	coarse sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Reddish color present in B horizon. Reduction not present as seen in wetland.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-40-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.160022 Long: -77.455803 Datum: NAD-1983
 Soil Map Unit Name: Wehadkee silt loam, 0 to 2 percent slopes, frequently flooded NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This primarily bottomland hardwood wetland is north and south of Claiborne Crossing Road. It has strong hydrology indicators and hydric soils. Field Sheet 10-WTL-04-wet.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>4 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology likely due to high water table. Claiborne Crossing Road acts as a dam separating wetland 4 & 5. No culvert is present connecting the two, but hydrologic connection is likely.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-40-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>40</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2 <u>Quercus palustris</u>	<u>30</u>		<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
3 <u>Acer rubrum</u>	<u>15</u>		<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)	
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>85</u> x 3 = <u>255</u> FACU species <u>7</u> x 4 = <u>28</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>122</u> (A) <u>343</u> (B) Prevalence Index = B/A = <u>2.81</u> Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
<u>85</u> = Total Cover 50% of total cover <u>42.5</u> 20% of total cover: <u>17</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>Juniperus virginiana</u>	<u>2</u>	<u>N</u>	<u>FACU</u>		
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>2</u> = Total Cover 50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Microstegium vimineum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u>X</u> No _____	
2 <u>Carex spp.</u>	<u>10</u>	<u>Y</u>			
3 <u>Lonicera japonica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>45</u> = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Water marks observed on the trees.

SOIL

Sampling Point: **03-WTL-40-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 1						sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input checked="" type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils appear to be strongly reduced.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-40-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-40-wet Area south of Claiborne Crossing Road.



03-WTL-40-wet Wetland north of Claiborne Crossing Road.



03-WTL-40-wet Water marks and inundation in wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-40-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): raised terrace Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.159743 Long: -77.455579 Datum: NAD-1983
 Soil Map Unit Name: Wehadkee silt loam, 0 to 2 percent slopes, frequently flooded NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is the upland point for the wetland north and south of Claiborne Crossing Road. Field Sheet 10-WTL-04-Up.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland data point that is moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-40-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	50	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u>	(A)
2 <u>Acer rubrum</u>	10	N	FAC	Total Number of Dominant Species Across all Strata: <u>7</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>71.43%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>100</u> x 3 = <u>300</u>	
	60 = Total Cover			FACU species <u>20</u> x 4 = <u>80</u>	
	50% of total cover <u>30</u>	20% of total cover: <u>12</u>		UPL species <u>0</u> x 5 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Column totals <u>120</u> (A) <u>380</u> (B)	
1 <u>Liquidambar styraciflua</u>	15	Y	FAC	Prevalence Index = B/A = <u>3.17</u>	
2 <u>Acer rubrum</u>	15	Y	FAC	Hydrophytic Vegetation Indicators:	
3 <u>Juniperus virginiana</u>	10	Y	FACU	<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4 <u>Cornus florida</u>	5	N	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5 _____				Definitions of Four Vegetation Strata:	
6 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
7 _____				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	45 = Total Cover				
	50% of total cover <u>22.5</u>	20% of total cover: <u>9</u>			
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Microstegium vimineum</u>	5	Y	FAC		
2 <u>Lonicera japonica</u>	5	Y	FACU		
3 <u>Smilax rotundifolia</u>	5	Y	FAC		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
	15 = Total Cover				
	50% of total cover <u>7.5</u>	20% of total cover: <u>3</u>			
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
	0 = Total Cover				
	50% of total cover <u>0</u>	20% of total cover: <u>0</u>			

Remarks: (If observed, list morphological adaptations below).
Eastern red cedar and flowering dogwood are present in upland area and not in wetland.

SOIL

Sampling Point: **03-WTL-40-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 5 / 2						sandy clay	
3+	10YR 5 / 4						sand	coarse sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Reddish color present in B horizon. Reduction not present as seen in wetland.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-41-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.157479 Long: -77.45317 Datum: NAD-1983

Soil Map Unit Name: Chastain silt loam, 0 to 2 percent slopes, ponded NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: No access to the area due to landowner access denial. Wetland associated with Stream #2 and Culvert #2. Field Sheet 10-B-wetland-03 wet1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>12</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Hydrology linked to Stream 2. Wetland acts as floodplain. Beaver activity likely present, but can't confirm due to access issue.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-41-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Betula nigra</u>	<u>20</u>		<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2 <u>Acer rubrum</u>	<u>20</u>		<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
3 <u>Quercus palustris</u>	<u>5</u>		<u>FACW</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>55</u> x 2 = <u>110</u> FAC species <u>110</u> x 3 = <u>330</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>165</u> (A) <u>440</u> (B) Prevalence Index = B/A = <u>2.67</u>	
5 _____					
6 _____					
7 _____					
8 _____					
<u>45</u> = Total Cover 50% of total cover <u>22.5</u> 20% of total cover: <u>9</u>					
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)					
1 <u>Acer rubrum</u>	<u>70</u>	<u>Y</u>	<u>FAC</u>		
2 <u>Betula nigra</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>		
3 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>		
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>110</u> = Total Cover 50% of total cover <u>55</u> 20% of total cover: <u>22</u>					
Herb Stratum (Plot Size: <u>5' radius</u>)					
1 <u>Smilax rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 _____				Hydrophytic vegetation present? Yes <u>X</u> No _____	
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					

Remarks: (If observed, list morphological adaptations below).
Actual plot sample was not possible due to property access issues.

SOIL

Sampling Point: **03-WTL-41-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks: **Unknown due to property access issues, but presumed to be hydric based upon other local wetlands and professional judgment.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-41-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	2	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 12

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-41-wet View of wetland



03-WTL-41-wet Culvert under railroad for stream 2.



03-WTL-41-wet View of inundated portion of wetland



03-WTL-41-wet View of wetland

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-41-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): raised terrace Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.157479 Long: -77.452925 Datum: NAD-1983
 Soil Map Unit Name: Chastain silt loam, 0 to 2 percent slopes, ponded NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? Are "normal circumstances" present? Yes No
 Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: No property access. Vegetation seen is general and not plot specific. Delineation boundary at white pines (upland) and river birch (wetland). Greenbriar very dense (unlike wetland) and honeysuckle present. Field Sheet 10-B-WTL-03 upland1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **No saturation or inundation observed in upland data point. Because of access no soil core could be taken.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-41-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Pinus strobus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)
4 _____	_____	_____	_____	Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>60</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>3.33</u>
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
11 _____	_____	_____	_____	
12 _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Smilax rotundifolia</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic vegetation present? Yes _____ No <u>X</u>
2 <u>Lonicera japonica</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>50</u> = Total Cover 50% of total cover <u>25</u> 20% of total cover: <u>10</u>				

Remarks: (If observed, list morphological adaptations below).
No plot data because of access issue.

SOIL

Sampling Point: **03-WTL-41-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **No core taken due to property access issue.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-42-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.153916 Long: -77.449299 Datum: NAD-1983
 Soil Map Unit Name: Altavista fine sandy loam, 2 to 6 percent slopes, very rarely flooded NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This cutover PEM wetland was not directly accessible, because the landowner denied access to the property. The data sheet was completed from the CSX ballast using the visible evidence of hydrology and plants. Based on the evidence of hydrology and experience with nearby wetlands, it is assumed that the soils would be hydric. Field Sheet 10-B-WTL-02 wet.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>3 inches</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The complete extent of the hydrology indicators is not know throughout the wetland due to access issues.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-42-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Quercus palustris</u>	<u>5</u>		FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across all Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column totals _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Scirpus cyperinus</u>	<u>95</u>	Y	OBL	
2 <u>Carex spp.</u>	<u>5</u>	N		
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>100</u> = Total Cover 50% of total cover <u>50</u> 20% of total cover: <u>20</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).
Other plants present include black willow (*Salix nigra*) and Bidens spp.

SOIL

Sampling Point: **03-WTL-42-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks: **Unknown due to access issues, but presumed to be hydric based on evidence and experience from nearby wetlands.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 03-WTL-42-wet

Project/Site: DC2RVA-Area 3

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 6

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



03-WTL-42-wet View of wetland



03-WTL-42-wet Cutover timber in wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 3 City/County: Caroline Sampling Date: December 1, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 03-WTL-42-upl
 Investigator(s): D.Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.153902 Long: -77.449211 Datum: NAD-1983
 Soil Map Unit Name: Altavista fine sandy loam, 2 to 6 percent slopes, very rarely flooded NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u> X </u> Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Remarks: Upland consists of dense young vines, smilax, and sweetgum. No access to upland area. No other data collected. Wetland delineated by presence of wool grass, bidens spp, and carex spp. Field Sheet 10-B-WTL2-upl.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **No access to Beasley property, but the upland sample point appeared to be well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **03-WTL-42-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u>	(A)
2 _____				Total Number of Dominant Species Across all Strata: <u>3</u>	(B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u>	(A/B)
4 _____				Prevalence Index worksheet	
5 _____				Total % Cover of:	Multiply by:
6 _____				OBL species <u>0</u> x 1 = <u>0</u>	
7 _____				FACW species <u>0</u> x 2 = <u>0</u>	
8 _____				FAC species <u>25</u> x 3 = <u>75</u>	
				FACU species <u>0</u> x 4 = <u>0</u>	
				UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>25</u> (A) <u>75</u> (B)	
_____ = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index = B/A = <u>3.00</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1 <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
2 _____				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3 _____				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
4 _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
6 _____				Definitions of Four Vegetation Strata:	
7 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
8 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
9 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
10 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
11 _____					
12 _____					
_____ = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Andropogon virginicus</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
_____ = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>					
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1 <u>Smilax rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
2 _____					
3 _____					
4 _____					
5 _____					
_____ = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>					

Remarks: (If observed, list morphological adaptations below).
No access to property.

SOIL

Sampling Point: **03-WTL-42-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **No access to property. Well drained soils are assumed to be upland.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: November 30, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-01-wet
 Investigator(s): D. Mitchell, M. Rockwell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.148151 Long: -77.444129 Datum: NAD-1983
 Soil Map Unit Name: Bibb-Chastain complex, 0 to 2 percent slopes, frequently flooded NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Bottomland hardwood wetland associated with 10-STR-01. Field Sheet 10-B-WTL-01 wet1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): 4 inches Water table present? Yes <u>X</u> No <u> </u> Depth (inches): surface Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): surface (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **At surface. High water table associated with stream 1. Beaver dam on stream 1 is upstream from wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-01-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>60</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2 <u>Acer rubrum</u>	<u>15</u>		<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
3 <u>Betula nigra</u>	<u>15</u>		<u>FACW</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: Multiply by:	
1 <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>		OBL species <u>5</u>	x 1 = <u>5</u>
2 <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	FACW species <u>20</u>	x 2 = <u>40</u>
3 <u>Carpinus caroliniana</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	FAC species <u>100</u>	x 3 = <u>300</u>
4 <u>Ilex opaca</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	FACU species <u>0</u>	x 4 = <u>0</u>
5 _____				UPL species <u>0</u>	x 5 = <u>0</u>
6 _____				Column totals <u>125</u> (A)	<u>345</u> (B)
7 _____				Prevalence Index = B/A = <u>2.76</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>40</u> = Total Cover 50% of total cover <u>20</u> 20% of total cover: <u>8</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Carex spp.</u>	<u>20</u>	<u>Y</u>		Definitions of Four Vegetation Strata:	
2 <u>Osmundastrum cinnamomeum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 <u>Smilax rotundifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>35</u> = Total Cover 50% of total cover <u>17.5</u> 20% of total cover: <u>7</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 <u>none</u>					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					
Remarks: (If observed, list morphological adaptations below). American beech and large hollies are in the upland and help delineate habitat boundary.					

SOIL

Sampling Point: **04-WTL-01-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 4 / 1	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Saturated dark clay soil to 18" + .**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 04-WTL-01-wet

Project/Site: DC2RVA-Area 4

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	2	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 9

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



04-WTL-01-wet Bottomland hardwood wetland.



04-WTL-01-wet Drainage through wetland.



04-WTL-01-wet View of wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: November 30, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-01-upl
 Investigator(s): D. Mitchell, K. Astroth Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 5%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.148010 Long: -77.443054 Datum: NAD-1983
 Soil Map Unit Name: Altavista fine sandy loam, 2 to 6 percent slopes, very rarely flooded NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: This is an upland data sheet. Field Sheet 10-B-wetland01-upland.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Upland is adjacent to wetland.	

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-01-up1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>70</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)	
2 <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>6</u> (B)	
3 <u>Fagus grandifolia</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>83.33%</u> (A/B)	
4 <u>Ilex opaca</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
5 _____					
6 _____					
7 _____					
8 _____					
<u>145</u> = Total Cover 50% of total cover <u>72.5</u> 20% of total cover: <u>29</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: Multiply by:	
1 <u>Fagus grandifolia</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	OBL species <u>0</u>	x 1 = <u>0</u>
2 <u>Ilex opaca</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	FACW species <u>25</u>	x 2 = <u>50</u>
3 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	FAC species <u>145</u>	x 3 = <u>435</u>
4 _____				FACU species <u>15</u>	x 4 = <u>60</u>
5 _____				UPL species <u>0</u>	x 5 = <u>0</u>
6 _____				Column totals <u>185</u> (A)	<u>545</u> (B)
7 _____				Prevalence Index = B/A = <u>2.95</u>	
8 _____				Hydrophytic Vegetation Indicators:	
<u>15</u> = Total Cover 50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				<input type="checkbox"/> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot Size: <u>5' radius</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u>Huperzia lucidula</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	Definitions of Four Vegetation Strata:	
2 _____				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
3 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
4 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
5 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
<u>25</u> = Total Cover 50% of total cover <u>12.5</u> 20% of total cover: <u>5</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)					
1 _____					
2 _____					
3 _____					
4 _____					
5 _____					
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>					
Remarks: (If observed, list morphological adaptations below).					

SOIL

Sampling Point: **04-WTL-01-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-4	10YR 4 / 1	100						
4-12+	10YR 5 / 1	100						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks: **Soils moderately well drained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-02-wet-1
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.136979 Long: -77.431286 Datum: NAD-1983
 Soil Map Unit Name: Roanoke loam, 0 to 2 percent slopes, ponded NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Large wetland complex. PFO adjacent to rail ballast. Field Sheet 11-B-WTL-01 wet1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Saturated at surface portions of wetland are inundated. Stream 1 flows south on the eastern edge of wetland parallel to railroad.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-02-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>45</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2 <u>Quercus phellos</u>	<u>20</u>		<u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>6</u> (B)	
3 <u>Acer rubrum</u>	<u>5</u>		<u>FAC</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
70 = Total Cover					
50% of total cover <u>35</u>				20% of total cover: <u>14</u>	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet	
1 <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Total % Cover of: Multiply by:	
2 <u>Cornus drummondii</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>5</u>	x 1 = <u>5</u>
3 <u>Magnolia spp.</u>	<u>5</u>	<u>Y</u>		FACW species <u>20</u>	x 2 = <u>40</u>
4 <u>Ilex opeca</u>	<u>5</u>	<u>Y</u>		FAC species <u>75</u>	x 3 = <u>225</u>
5 _____				FACU species <u>0</u>	x 4 = <u>0</u>
6 _____				UPL species <u>0</u>	x 5 = <u>0</u>
7 _____				Column totals <u>100</u>	(A) <u>270</u> (B)
8 _____				Prevalence Index = B/A = <u>2.70</u>	
20 = Total Cover					
50% of total cover <u>10</u>				20% of total cover: <u>4</u>	
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1 <u>Osmunda regalis</u>	<u>15</u>	<u>Y</u>		<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
2 <u>Microstegium vimineum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	<u> </u> 2 - Dominance Test is >50%	
3 <u>Carex spp.</u>	<u>5</u>	<u>N</u>		<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
4 <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
40 = Total Cover					
50% of total cover <u>20</u>				20% of total cover: <u>8</u>	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Four Vegetation Strata:	
1 <u>none</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
2 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
3 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
4 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
5 _____					
0 = Total Cover					
50% of total cover <u>0</u>				20% of total cover: <u>0</u>	
				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: (If observed, list morphological adaptations below).					

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 4 / 1	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 04-WTL-02-wet-1

Project/Site: DC2RVA-Area 4

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 11

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



04-WTL-02-wet-1 View of wetland.



04-WTL-02-wet-1 View of wetland showing inundation.



04-WTL-02-wet-1 View of bottomland hardwood wetland from rail.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-02-upl-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> = Total Cover 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> = Total Cover 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Solidago spp.</u>	<u>20</u>	<u>Y</u>		
2 <u>Verbascum thapsus</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>10.5</u> = Total Cover 20% of total cover: <u>4.2</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> = Total Cover 20% of total cover: <u>0</u>				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>1</u>	x 4 = <u>4</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>1</u> (A)	<u>4</u> (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No **X**

Remarks: (If observed, list morphological adaptations below).
Railroad ballast upland.

SOIL

Sampling Point: **04-WTL-02-upl-1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR	4 / 6					sand	gravelly

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Adjacent to ballast.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-02-wet-2
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.137316 Long: -77.431725 Datum: NAD-1983

Soil Map Unit Name: Roanoke loam, 0 to 2 percent slopes, ponded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is the second wetland point in this large wetland. Field Sheet 11-B-WTL-01-Wet-2.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>4 inches</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Inundated. Saturated to surface.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-02-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Betula nigra</u>	<u>50</u>		<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
2 <u>Acer rubrum</u>	<u>40</u>		<u>FAC</u>	
3 _____	<u>5</u>			
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
50% of total cover <u>47.5</u> 20% of total cover: <u>19</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>65</u> x 2 = <u>130</u> FAC species <u>50</u> x 3 = <u>150</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>115</u> (A) <u>280</u> (B) Prevalence Index = B/A = <u>2.43</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Betula nigra</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Lindera benzoin</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
50% of total cover <u>12.5</u> 20% of total cover: <u>5</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Carex spp.</u>	<u>5</u>	<u>Y</u>		
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (If observed, list morphological adaptations below).				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:
Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes X No _____

SOIL

Sampling Point: **04-WTL-02-wet-2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2 / 1	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Very dark and saturated soils.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 2, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-02-upl-2
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): ballast slope Local relief (concave, convex, none): none Slope (%): 15%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.137394 Long: -77.431563 Datum: NAD-1983
 Soil Map Unit Name: Roanoke loam, 0 to 2 percent slopes, ponded NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Upland data point near toe of ballast slope. Field Sheet 11-B-WTL-01-Up2.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Area moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-02-upl-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 Fagus grandifolia	25	Y	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>6</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A)
2 Quercus phellos	15	Y	FACW	
3 Ilex opaca	15	Y	FAC	
4 Quercus rubra	5	N	FACU	
5				
6				
7				
8				
50% of total cover <u>30</u> 20% of total cover: <u>12</u> Total % Cover = <u>60</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>75</u> (A) <u>250</u> (B) Prevalence Index = B/A = <u>3.33</u> Hydrophytic Vegetation Indicators: <u>1</u> -Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover <u>7.5</u> 20% of total cover: <u>3</u> Total % Cover = <u>15</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 Juniperus virginiana	10	Y	FACU	
2 Ilex opaca	5	Y	FAC	
3				
4				
5				
6				
7				
8				
50% of total cover <u>7.5</u> 20% of total cover: <u>3</u> Total % Cover = <u>15</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 Smilax spp.	5	Y		
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>2.5</u> 20% of total cover: <u>1</u> Total % Cover = <u>5</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 none				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u> Total % Cover = <u>0</u>				
Hydrophytic vegetation present? Yes <u>X</u> No _____				

Remarks: (If observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-2	10YR 3 / 2	100					silt loam	
2-10	10YR 3 / 1	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soils are dark, but not wet. Soils contain ample organic material.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-02-wet-3
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.138595 Long: -77.433435 Datum: NAD-1983
 Soil Map Unit Name: Roanoke loam, 0 to 2 percent slopes, ponded NWI classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This is the third wetland data point in this large wetland. Field Sheet 11-B-WTL-01-Wet-3.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-02-wet-3**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Liquidambar styraciflua</u>	<u>15</u>		<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Acer rubrum</u>	<u>15</u>		<u>FAC</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
50% of total cover <u>15</u> 20% of total cover: <u>6</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>7</u> x 2 = <u>14</u> FAC species <u>72</u> x 3 = <u>216</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>89</u> (A) <u>240</u> (B)
50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Prevalence Index = B/A = <u>2.70</u>
1 <u>Ilex opaca</u>	<u>2</u>		<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				Hydrophytic Vegetation Indicators: <u> </u> 1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Microstegium vimineum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 <u>Carex lurida</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3 <u>Polygonum pensylvanicum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4 <u>Quercus phellos</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
50% of total cover <u>28.5</u> 20% of total cover: <u>11.4</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No _____
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **04-WTL-02-wet-3**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-3	10YR 3 / 2	100					sandy loam	
3-12+	10YR 2 / 2	100					sandy loam	coarse sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Soils are saturated.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-02-upl-3
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): toe of ballast slope Local relief (concave, convex, none): none Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.139036 Long: -77.433347 Datum: NAD-1983

Soil Map Unit Name: Roanoke loam, 0 to 2 percent slopes, ponded NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Upland data point. Field Sheet 11-B-WTL-01-Up3.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **No hydrology indicators, area well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-02-upl-3**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Juniperus virginiana</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A)
2 <u>Platanus occidentalis</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
50% of total cover <u>22.5</u>	<u>45</u> = Total Cover		<u>9</u>	Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>87</u> x 3 = <u>261</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>132</u> (A) <u>411</u> (B)
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Ligustrum japonicum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
50% of total cover <u>7.5</u>	<u>15</u> = Total Cover		<u>3</u>	
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Ligustrum japonicum</u>	<u>70</u>	<u>Y</u>	<u>FAC</u>	1 -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 Problematic Hydrophytic Vegetation ¹ (Explain)
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
50% of total cover <u>35</u>	<u>70</u> = Total Cover		<u>14</u>	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>Toxicodendron radicans</u>	<u>2</u>		<u>FAC</u>	Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
2 <u>Vitis spp.</u>	<u>2</u>			
3 _____				
4 _____				
5 _____				
50% of total cover <u>2</u>	<u>4</u> = Total Cover		<u>0.8</u>	

Remarks: (If observed, list morphological adaptations below).
Japanese privet draws line of upland area.

Hydrophytic vegetation present? Yes No

SOIL

Sampling Point: **04-WTL-02-upl-3**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3 / 2	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Lots of organics. Much drier than wetland soils.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-03-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.132391 Long: -77.426879 Datum: NAD-1983

Soil Map Unit Name: Chastain silt loam, 0 to 2 percent slopes, ponded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Large wetland complex with braided channel due to recent rain. Field Sheet 11-B-WTL-02-Wet1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2 inches</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Saturated at surface.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-03-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1 <u>Liquidambar styraciflua</u>	<u>25</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2 <u>Acer rubrum</u>	<u>15</u>		<u>FAC</u>	Total Number of Dominant Species Across all Strata: <u>4</u> (B)	
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)	
4 _____					
5 _____					
6 _____					
7 _____					
8 _____					
50% of total cover <u>20</u> 20% of total cover: <u>8</u>				Prevalence Index worksheet	
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				Total % Cover of: Multiply by:	
1 <u>Acer rubrum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>0</u> x 1 = <u>0</u>	
2 _____				FACW species <u>5</u> x 2 = <u>10</u>	
3 _____				FAC species <u>60</u> x 3 = <u>180</u>	
4 _____				FACU species <u>0</u> x 4 = <u>0</u>	
5 _____				UPL species <u>0</u> x 5 = <u>0</u>	
6 _____				Column totals <u>65</u> (A) <u>190</u> (B)	
7 _____				Prevalence Index = B/A = <u>2.92</u>	
8 _____				Hydrophytic Vegetation Indicators:	
50% of total cover <u>7.5</u> 20% of total cover: <u>3</u>				<u> </u> 1 -Rapid Test for Hydrophytic Vegetation	
Herb Stratum (Plot Size: <u>5' radius</u>)				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
1 <u>Microstegium vimineum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0	
2 <u>Carex vulpinoidea</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
3 <u>Polygonum spp.</u>	<u>5</u>	<u>Y</u>			
4 _____	<u>2</u>	<u>N</u>			
5 _____					
6 _____					
7 _____					
8 _____					
9 _____					
10 _____					
11 _____					
12 _____					
50% of total cover <u>8.5</u> 20% of total cover: <u>3.4</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Definitions of Four Vegetation Strata:	
1 <u>none</u>				Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
2 _____				Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
3 _____				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
4 _____				Woody vines - All woody vines greater than 3.28 ft in height.	
5 _____					
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: (If observed, list morphological adaptations below).					

SOIL

Sampling Point: **04-WTL-03-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 3 / 1	100					silty clay	lots of organics

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Mucky.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 04-WTL-03-wet

Project/Site: DC2RVA-Area 4

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	3	

Total Score 10

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



04-WTL-03-wet View of wetland



04-WTL-03-wet View of inundated portion of
wetland

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-03-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.132837 Long: -77.427283 Datum: NAD-1983
 Soil Map Unit Name: Wickham fine sandy loam, 2 to 6 percent slopes, very rarely flooded NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: About two-foot drop into wetland makes obvious boundary. Field Sheet 11-WTL-02-Up.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-03-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Liquidambar styraciflua</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>6</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A)
2 <u>Liriodendron tulipifera</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3 <u>Carpinus caroliniana</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
80 = Total Cover 50% of total cover <u>40</u> 20% of total cover: <u>16</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>45</u> x 4 = <u>180</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>105</u> (A) <u>360</u> (B) Prevalence Index = B/A = <u>3.43</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Juniperus virginiana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Ilex opaca</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
20 = Total Cover 50% of total cover <u>10</u> 20% of total cover: <u>4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Lonicera japonica</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Panicum spp.</u>	<u>5</u>	<u>Y</u>		
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
10 = Total Cover 50% of total cover <u>5</u> 20% of total cover: <u>2</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
0 = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present?

Yes _____ No X

Remarks: (If observed, list morphological adaptations below).

Large mature trees. Large mature white oaks are present adjacent to wetland in the upland area.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-5	10YR 2 / 2	100					sandy loam	
5-12+	10YR 3 / 2	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: Upland area with lots of organics in the soil from late successional forest. Upper horizon has ample organics with minerals becoming more dominant in lower horizon.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-04-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.125179 Long: -77.419157 Datum: NAD-1983
 Soil Map Unit Name: Tomotley-Roanoke complex, 0 to 2 percent slopes, rarely flooded NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Wetland 4 is a Wetland Mitigation Bank. Field Sheet 11-WTL-04-Wet1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Saturated and inundated.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-04-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
<u>0</u> = Total Cover				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Juncus effusus</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Scirpus cyperinus</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Typha angustifolia</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
4				
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>45</u> 20% of total cover: <u>18</u>				
<u>90</u> = Total Cover				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
<u>0</u> = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across all Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column totals _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Vegetation consists primarily of herbaceous species.

SOIL

Sampling Point: **04-WTL-04-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-5	10YR 4 / 2	100					sandy loam	
5-12+	10YR 5 / 1	100					sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks: **Saturated wet soils.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 04-WTL-04-wet

Project/Site: DC2RVA-Area 4

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	2	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	2	

Total Score 7

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



04-WTL-04-wet View of PEM wetland

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-04-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 4%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.125251 Long: -77.419291 Datum: NAD-1983
 Soil Map Unit Name: Tomotley-Roanoke complex, 0 to 2 percent slopes, rarely flooded NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u> Hydric Soil Present? Yes <u> </u> No <u> X </u> Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Remarks: Field Sheet 11-WTL-04-Up1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Upland point moderately well drained.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-04-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 none				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> = Total Cover 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 none				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> = Total Cover 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 Solidago spp.	60	Y		
2 Sorghum halepense	15	Y	FACU	
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>37.5</u> = Total Cover 20% of total cover: <u>15</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 none				
2				
3				
4				
5				
50% of total cover <u>0</u> = Total Cover 20% of total cover: <u>0</u>				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>15</u>	x 4 = <u>60</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column totals <u>15</u>	(A) <u>60</u> (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **04-WTL-04-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-6	10YR 3 / 2	100					silt loam	
6-12+	10YR 4 / 3	70	10YR 4 / 6	30			silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No **X**

Remarks: **Dry crumbly soil.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline Sampling Date: August 10, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-05-wet
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Toe of ballast Local relief (concave, convex, none): Convex Slope (%): 0%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.124036 Long: -77.417389 Datum: NAD-1983
 Soil Map Unit Name: Tomotley-Roanoke complex, 0 to 2 percent slopes, rarely flooded NWI classification: PEM/PSS
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS– Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	

Remarks: **This is a large, high-quality wetland that ranges from emergent to shrub to bottomland hardwood.**

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		___ Surface Soil Cracks (B6)
<u>X</u> Surface Water (A1)	<u>X</u> Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
<u>X</u> High Water Table (A2)	___ Marl Deposits (B15) (LRR U)	<u>X</u> Drainage Patterns (B10)
<u>X</u> Saturation (A3)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Water Marks (B1)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Drift Deposits (B3)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Algal Mat or Crust (B4)	___ Thin Muck Surface (C7)	___ Geomorphic Position (D2)
___ Iron Deposits (B5)	___ Other (Explain in Remarks)	___ Shallow Aquitard (D3)
___ Inundation Visible on Aerial Imagery (B7)		___ FAC-Neutral Test (D5)
___ Water-Stained Leaves (B9)		___ Sphagnum moss (D8) (LRR T, U)

Field Observations:			
Surface water present?	Yes <u>X</u> No <u> </u>	Depth (inches): <u>12+</u>	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Water table present?	Yes <u>X</u> No <u> </u>	Depth (inches): <u> </u>	
Saturation present? (includes capillary fringe)	Yes <u>X</u> No <u> </u>	Depth (inches): <u> </u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This is a large emergent wetland that butts up against the toe of the railroad ballast. The wetland is open water, interspersed with wetland vegetation. Wood ducks and frogs were observed within the wetland.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-05-wet**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status	
1				
2				
3				
4				
5				
6				
7				
8				
	0	= Total Cover		
	50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status	
1	Acer rubrum	5	Y	FAC
2				
3				
4				
5				
6				
7				
8				
	5	= Total Cover		
	50% of total cover: 2.5	20% of total cover: 1		
Herb Stratum (Plot Size: 5' diameter)	Absolute % Cover	Dominant Species?	Indicator Status	
1	Juncus effusus	70	Y	OBL
2	Typha latifolia	15	N	OBL
3	Scirpus cyoerinus	10	N	
4	Polygonum amphibium	5	N	
5				
6				
7				
8				
9				
10				
11				
12				
	100	= Total Cover		
	50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status	
1				
2				
3				
4				
5				
	0	= Total Cover		
	50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet

	Total % Cover of:		Multiply by:
OBL species	<u>85</u>	x 1 =	<u>85</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>5</u>	x 3 =	<u>15</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column totals	<u>90</u>	(A)	<u>100</u> (B)

Prevalence Index = B/A = 1.11

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12								Ballast

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks: **Soil cores are in rock at the toe of the ballast. Soil cores could not be obtained.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 04-WTL-05-wet

Project/Site: DC2RVA-Area 4

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	2	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	2	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	1	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	3	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	3	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	4	

Total Score 15

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



04-WTL-05-wet PFO vegetation.



04-WTL-05-wet Inundated PFO vegetation.



04-WTL-05-wet PFO vegetation.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline Sampling Date: August 10, 2016
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-05-upl
 Investigator(s): L. Eggering & R. Porath Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Ballast Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.124078 Long: -77.417444 Datum: NAD-1983
 Soil Map Unit Name: Tomotley-Roanoke complex, 0 to 2 percent slopes, rarely flooded NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>	

Remarks: **The upland point near the wetland was on the base of the ballast. It is well-drained and lacks hydric soils.**
 Field Sheet GPS: 21-WTL-01-upl

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? (includes capillary fringe) Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **This point is located on the railroad ballast.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-05-upl**

Tree Stratum (Plot Size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status																																																																																																																																																																											
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				Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u> (A/B)																																																																																																																																																																										
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				Total % Cover of: <u>0</u> Multiply by:																																																																																																																																																																										
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				UPL species <u>30</u> x 5 = <u>150</u>																																																																																																																																																																										
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<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:35%;">Sapling/Shrub Stratum (Plot Size: 15' diameter)</th> <th style="width:10%;">Absolute % Cover</th> <th style="width:10%;">Dominant Species?</th> <th style="width:10%;">Indicator Status</th> <th style="width:35%;"></th> </tr> </thead> <tbody> <tr><td>1</td><td>Acer rubrum</td><td>10</td><td>Y</td><td>FAC</td></tr> <tr><td>2</td><td></td><td></td><td></td><td></td></tr> <tr><td>3</td><td></td><td></td><td></td><td></td></tr> <tr><td>4</td><td></td><td></td><td></td><td></td></tr> <tr><td>5</td><td></td><td></td><td></td><td></td></tr> <tr><td>6</td><td></td><td></td><td></td><td></td></tr> <tr><td>7</td><td></td><td></td><td></td><td></td></tr> <tr><td>8</td><td></td><td></td><td></td><td></td></tr> <tr> <td colspan="4"></td> <td><u>10</u> = Total Cover</td> </tr> <tr> <td colspan="4"></td> <td>50% of total cover: <u>5</u> 20% of total cover: <u>2</u></td> </tr> <tr> <td colspan="5">Herb Stratum (Plot Size: 5' diameter)</td> </tr> <tr><td>1</td><td>Tridens flavus</td><td>40</td><td>Y</td><td>FACU</td></tr> <tr><td>2</td><td>Setaria faberi</td><td>30</td><td>Y</td><td>UPL</td></tr> <tr><td>3</td><td>Tripsacum dactyloides</td><td>25</td><td>Y</td><td>FAC</td></tr> <tr><td>4</td><td>Securigera varia</td><td>5</td><td>N</td><td></td></tr> <tr><td>5</td><td></td><td></td><td></td><td></td></tr> <tr><td>6</td><td></td><td></td><td></td><td></td></tr> <tr><td>7</td><td></td><td></td><td></td><td></td></tr> <tr><td>8</td><td></td><td></td><td></td><td></td></tr> <tr><td>9</td><td></td><td></td><td></td><td></td></tr> <tr><td>10</td><td></td><td></td><td></td><td></td></tr> <tr><td>11</td><td></td><td></td><td></td><td></td></tr> <tr><td>12</td><td></td><td></td><td></td><td></td></tr> <tr> <td colspan="4"></td> <td><u>100</u> = Total Cover</td> </tr> <tr> <td colspan="4"></td> <td>50% of total cover: <u>50</u> 20% of total cover: <u>20</u></td> </tr> <tr> <td colspan="5">Woody Vine Stratum (Plot Size: 15' diameter)</td> </tr> <tr><td>1</td><td>Campsis radicans</td><td>5</td><td>Y</td><td>FAC</td></tr> <tr><td>2</td><td></td><td></td><td></td><td></td></tr> <tr><td>3</td><td></td><td></td><td></td><td></td></tr> <tr><td>4</td><td></td><td></td><td></td><td></td></tr> <tr><td>5</td><td></td><td></td><td></td><td></td></tr> <tr> <td colspan="4"></td> <td><u>5</u> = Total Cover</td> </tr> <tr> <td colspan="4"></td> <td>50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u></td> </tr> </tbody> </table>					Sapling/Shrub Stratum (Plot Size: 15' diameter)	Absolute % Cover	Dominant Species?	Indicator Status		1	Acer rubrum	10	Y	FAC	2					3					4					5					6					7					8									<u>10</u> = Total Cover					50% of total cover: <u>5</u> 20% of total cover: <u>2</u>	Herb Stratum (Plot Size: 5' diameter)					1	Tridens flavus	40	Y	FACU	2	Setaria faberi	30	Y	UPL	3	Tripsacum dactyloides	25	Y	FAC	4	Securigera varia	5	N		5					6					7					8					9					10					11					12									<u>100</u> = Total Cover					50% of total cover: <u>50</u> 20% of total cover: <u>20</u>	Woody Vine Stratum (Plot Size: 15' diameter)					1	Campsis radicans	5	Y	FAC	2					3					4					5									<u>5</u> = Total Cover					50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>
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Remarks: (If observed, list morphological adaptations below). The vegetation is highly disturbed.																																																																																																																																																																														

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12								Rock and coal ash

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Soil cores are in rock at the toe of ballast. Soil cores could not be obtained.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-06-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): RR ditch wetland Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.125002 Long: -77.418446 Datum: NAD-1983
 Soil Map Unit Name: Tomotley-Roanoke complex, 0 to 2 percent slopes, rarely flooded NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Railroad ditch wetland. Connector to wetland 4 via culvert. Field Sheet 11-B-WTL-03-Wet1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-06-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Liquidambar styraciflua</u>	<u>2</u>		<u>FAC</u>	
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>1</u> 20% of total cover: <u>0.4</u>				
<u>2</u> = Total Cover				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Juncus effusus</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Scirpus cyperinus</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Carex spp.</u>	<u>10</u>	<u>N</u>		
4				
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>32.5</u> 20% of total cover: <u>13</u>				
<u>65</u> = Total Cover				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
<u>0</u> = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across all Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column totals _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **04-WTL-06-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 1	100					clay	no mottles

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes X No _____

Remarks:

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 04-WTL-06-wet

Project/Site: DC2RVA-Area 4

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



04-WTL-06-wet View of railroad ditch wetland.



04-WTL-06-wet Herbaceous wetland habitat.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-06-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u>				<u>0</u> = Total Cover
20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u>				<u>0</u> = Total Cover
20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Solidago spp.</u>	<u>60</u>	<u>Y</u>		
2 <u>Sorghum halepense</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
3 <u>Verbascum thapsus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4				
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>40</u>				<u>80</u> = Total Cover
20% of total cover: <u>16</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u>				<u>0</u> = Total Cover
20% of total cover: <u>0</u>				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A)

Prevalence Index worksheet

	Total % Cover of:		Multiply by:
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>20</u>	x 4 =	<u>80</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column totals	<u>20</u> (A)		<u>80</u> (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No **X**

Remarks: (If observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 4 / 2	100					sandy clay	
4-12	10YR 5 / 3	100					sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-07-wet-1
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): rr ditch Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.12256 Long: -77.416898 Datum: NAD-1983
 Soil Map Unit Name: Tomotley-Roanoke complex, 0 to 2 percent slopes, rarely flooded NWI classification: PEM?
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Railroad ditch wetland. Flows into Stream 5. Field Sheet 11-WTL-06-Wet1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Water Marks (B1)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Geomorphic Position (D2)
<u> </u> Sediment Deposits (B2)	<u> </u> Shallow Aquitard (D3)
<u> </u> Presence of Reduced Iron (C4)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Drift Deposits (B3)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	
<u> </u> Iron Deposits (B5)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u> </u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>5 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Railside wetland, hydrology is likely connected to wetlands on the east side of the tracks.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-07-wet-1**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Acer rubrum</u>	<u>5</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2 _____				Total Number of Dominant Species Across all Strata: <u>5</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u> (A/B)
4 _____				Prevalence Index worksheet Total % Cover of: _____ Multiply by: _____ OBL species <u>45</u> x 1 = <u>45</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>150</u> (B) Prevalence Index = B/A = <u>1.88</u>
5 _____				
6 _____				
7 _____				
8 _____				
<u>5</u> = Total Cover 50% of total cover <u>2.5</u> 20% of total cover: <u>1</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Alnus spp.</u>	<u>10</u>	<u>Y</u>		
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>20</u> = Total Cover 50% of total cover <u>10</u> 20% of total cover: <u>4</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Juncus effusus</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Microstegium vimineum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3 <u>Murdannia keisak</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>65</u> = Total Cover 50% of total cover <u>32.5</u> 20% of total cover: <u>13</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Hydrophytic Vegetation Indicators:

1 -Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).
Railside wetland.

SOIL

Sampling Point: **04-WTL-07-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4 / 1	100					sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Mucky soil.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 04-WTL-07-wet-1

Project/Site: DC2RVA-Area 4

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	0	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 4

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



04-WTL-07-wet-1 View of wetland from near rail



04-WTL-07-wet-1 View of wetland



04-WTL-07-wet-1 View of upland

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-07-upl-1
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): ballast Local relief (concave, convex, none): none Slope (%): 10%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.122367 Long: -77.416633 Datum: NAD-1983
 Soil Map Unit Name: Tomotley-Roanoke complex, 0 to 2 percent slopes, rarely flooded NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydic Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Upland area located on hillslope of railroad ballast. Field Sheet 11-WTL-06-Up1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Aquatic Fauna (B13)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Marl Deposits (B15) (LRR U)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-07-upl-1**

Tree Stratum	(Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>none</u>			
2				
3				
4				
5				
6				
7				
8				

0 = Total Cover
50% of total cover 0 20% of total cover: 0

Sapling/Shrub Stratum	(Plot Size: <u>15' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>none</u>			
2				
3				
4				
5				
6				
7				
8				

0 = Total Cover
50% of total cover 0 20% of total cover: 0

Herb Stratum	(Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>Setaria faberi</u>	<u>40</u>	<u>Y</u>	<u>UPL</u>
2	<u>Verbascum thapsus</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

60 = Total Cover
50% of total cover 30 20% of total cover: 12

Woody Vine Stratum	(Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>none</u>			
2				
3				
4				
5				

0 = Total Cover
50% of total cover 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A)

Prevalence Index worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>20</u>	x 4 = <u>80</u>
UPL species <u>40</u>	x 5 = <u>200</u>
Column totals <u>60</u>	(A) <u>280</u> (B)

Prevalence Index = B/A = 4.67

Hydrophytic Vegetation Indicators:

 1 -Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No X

Remarks: (If observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc2		
0-6	10YR	3 / 2	100					silt loam	
6-12	10YR	4 / 2	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Lots of organics. Dry, crumbly soil with evidence of coal cinders.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-07-wet-2
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): rr ditch Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.122949 Long: -77.417134 Datum: NAD-1983
 Soil Map Unit Name: Tomotley-Roanoke complex, 0 to 2 percent slopes, rarely flooded NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Railroad ditch wetland. Flows into Stream 5. Field Sheet 11-WTL-05-Wet1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Water Marks (B1)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Geomorphic Position (D2)
<u> </u> Sediment Deposits (B2)	<u> </u> Shallow Aquitard (D3)
<u> </u> Presence of Reduced Iron (C4)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Drift Deposits (B3)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Iron Deposits (B5)	
<u> </u> Other (Explain in Remarks)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u> </u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>12 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Inundated.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-07-wet-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Acer rubrum</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Liquidambar styraciflua</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>4</u> = Total Cover 50% of total cover <u>2</u> 20% of total cover: <u>0.8</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>65</u> x 1 = <u>65</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>24</u> x 3 = <u>72</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>89</u> (A) <u>137</u> (B) Prevalence Index = B/A = <u>1.54</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				Hydrophytic Vegetation Indicators: <u>1</u> -Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50% <input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0 <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
1 <u>Juncus effusus</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Scirpus cyperinus</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Microstegium vimineum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
4 <u>Murdannia keisak</u>	<u>15</u>	<u>N</u>	<u>OBL</u>	
5 <u>Carex spp.</u>	<u>5</u>	<u>N</u>		
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic vegetation present? Yes <u>X</u> No _____				
Remarks: (If observed, list morphological adaptations below).				

SOIL

Sampling Point: **04-WTL-07-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12+	10YR 4 / 1	100					sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Wet and mucky.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 04-WTL-07-wet-2

Project/Site: DC2RVA-Area 4

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



04-WTL-07-wet-2 Railroad ditch portion of wetland,



04-WTL-07-wet-2 Railroad ditch portion of wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-07-upl-2
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): ballast Local relief (concave, convex, none): none Slope (%): 8%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.122888 Long: -77.417067 Datum: NAD-1983
 Soil Map Unit Name: Tomotley-Roanoke complex, 0 to 2 percent slopes, rarely flooded NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u> Hydric Soil Present? Yes <u> </u> No <u> X </u> Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Remarks: Railroad ditch upland data point near toe of ballast. Field Sheet 11-WTL-05-Up1.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-07-upl-2**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A)
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>90</u> x 5 = <u>450</u> Column totals <u>95</u> (A) <u>470</u> (B) Prevalence Index = B/A = <u>4.95</u> Hydrophytic Vegetation Indicators: ___ 1 -Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Setaria faberi</u>	<u>90</u>	<u>Y</u>	<u>UPL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u> </u> No <u> X </u>
2 <u>Verbascum thapsus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>47.5</u> 20% of total cover: <u>19</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 3 / 2	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Dry with lots of organics.**

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-08-wet
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): rr ditch Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.122949 Long: -77.417134 Datum: NAD-1983
 Soil Map Unit Name: Tomotley-Roanoke complex, 0 to 2 percent slopes, rarely flooded NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Railroad ditch wetland. Flows into Stream 5. Field Sheet 11-WTL-05-Wet1.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u>X</u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Aquatic Fauna (B13)	<u> </u> Moss Trim Lines (B16)
<u> </u> Marl Deposits (B15) (LRR U)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Water Marks (B1)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Geomorphic Position (D2)
<u> </u> Sediment Deposits (B2)	<u> </u> Shallow Aquitard (D3)
<u> </u> Presence of Reduced Iron (C4)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Drift Deposits (B3)	<u> </u> Sphagnum moss (D8) (LRR T, U)
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Algal Mat or Crust (B4)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Iron Deposits (B5)	
<u> </u> Other (Explain in Remarks)	
<u> </u> Inundation Visible on Aerial Imagery (B7)	
<u> </u> Water-Stained Leaves (B9)	

Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>12 inches</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **Inundated.**

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-08-wet**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>Acer rubrum</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 <u>Liquidambar styraciflua</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>4</u> = Total Cover 50% of total cover <u>2</u> 20% of total cover: <u>0.8</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>65</u> x 1 = <u>65</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>24</u> x 3 = <u>72</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>89</u> (A) <u>137</u> (B) Prevalence Index = B/A = <u>1.54</u>
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Juncus effusus</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Scirpus cyperinus</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Microstegium vimineum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
4 <u>Murdannia keisak</u>	<u>15</u>	<u>N</u>	<u>OBL</u>	
5 <u>Carex spp.</u>	<u>5</u>	<u>N</u>		
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
11 _____				
12 _____				
<u>90</u> = Total Cover 50% of total cover <u>45</u> 20% of total cover: <u>18</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover 50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Hydrophytic Vegetation Indicators:

- 1 -Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0
- Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

- Tree** - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/shrub** - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
- Woody vines** - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Yes No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **04-WTL-08-wet**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12+	10YR 4 / 1	100					sandy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes No

Remarks: **Wet and mucky.**

WETLAND FUNCTIONS & VALUES FORM

Wetland I.D.: 04-WTL-08-wet

Project/Site: DC2RVA-Area 4

Function/Value	Score	Comments
Floodwater Alteration/Retention - Considers the effectiveness (wetland size, water capacity in wetland, location in watershed, wetland juxtaposition, etc.) of the wetland in reducing flood damage and the flow of floodwaters by attenuation of floodwaters for prolonged periods following precipitation events.	1	
Sediment, Nutrient, & Toxicant Removal - Considers the effectiveness (wetland configuration, vegetative cover, wetland size, etc.) of the wetland in reducing or preventing degradation of water quality by trapping sediments, excess nutrients, and toxicants.	1	
Erosion Control and Stabilization - Considers the effectiveness (vegetative cover, size, substrate, etc.) of the wetland in reducing erosion of stream channels or stream banks down gradient of the wetland, along shorelines if associated with a lake or tidally influenced water body, or within the wetland itself.	0	
Wildlife Habitat (Terrestrial) - Considers the effectiveness (wetland's size, connectivity with other habitats, wetland juxtaposition, human-caused disturbance, etc.) of the wetland to provide habitat for various types and populations of terrestrial animals.	1	
Wildlife Habitat (Aquatic) - Considers the effectiveness (wetland's size, substrate, water quality, wetland juxtaposition, human-caused disturbance, pollution, etc.) of the wetland to provide habitat for various types and populations of aquatic animals.	1	
Visual Quality/Aesthetics - Considers the visual and aesthetic qualities of the wetland.	1	

Total Score 5

Score	Potential to Provide Desirable Wetland Functions and Values
0	None
1	Poor
2	Low
3	Moderate
4	High
5	Very High



04-WTL-08-wet Railroad ditch portion of wetland,



04-WTL-08-wet Railroad ditch portion of wetland.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: DC2RVA-Area 4 City/County: Caroline County Sampling Date: December 3, 2015
 Applicant/Owner: VDRPT State: VA Sampling Point: 04-WTL-08-upl
 Investigator(s): D. Mitchell, M. Rockwell Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): ballast Local relief (concave, convex, none): none Slope (%): 8%
 Subregion (LRR or MLRA): LRR: P, MLRA: 133A Lat: 38.122888 Long: -77.417067 Datum: NAD-1983
 Soil Map Unit Name: Tomotley-Roanoke complex, 0 to 2 percent slopes, rarely flooded NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of the year? Yes X No (If no, explain in Remarks.)
 Are vegetation , Soil , or Hydrology significantly disturbed? No Are "normal circumstances" present? Yes X No
 Are vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	
Remarks: Railroad ditch upland data point near toe of ballast. Field Sheet 11-WTL-05-Up1.			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<u> </u> Surface Water (A1)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)	<u> </u> FAC-Neutral Test (D5)
	<u> </u> Sphagnum moss (D8) (LRR T, U)

Field Observations:	
Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: **04-WTL-08-upl**

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1 <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A)
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>90</u> x 5 = <u>450</u> Column totals <u>95</u> (A) <u>470</u> (B) Prevalence Index = B/A = <u>4.95</u> Hydrophytic Vegetation Indicators: ___ 1 -Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
6				
7				
8				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1 <u>Setaria faberi</u>	<u>90</u>	<u>Y</u>	<u>UPL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Yes <u> </u> No <u> X </u>
2 <u>Verbascum thapsus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
50% of total cover <u>47.5</u> 20% of total cover: <u>19</u>				
Woody Vine Stratum (Plot Size: <u>30' radius</u>)				
1 <u>none</u>				
2				
3				
4				
5				
50% of total cover <u>0</u> 20% of total cover: <u>0</u>				

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: **04-WTL-08-upl**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc2		
0-12	10YR 3 / 2	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR, S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? Yes _____ No X

Remarks: **Dry with lots of organics.**