

VPRA Engineering Milestones		Date/Initials	Notes	Included?
Planning/Conceptual Engineering/Project Development	Single Line Drawing (Track Chart Horizontal View)			
	Basis of Design document			
	Proposed Typical section			
	Draft permit matrix			
	Initial Limits of Disturbance (LOD)			
	Preliminary Stakeholder Register			
	Preliminary Risk register			
	Order of Magnitude (OOM) Cost Estimate (% contingency - follow TAP/white paper)			
30% Design Submittal	Preliminary survey & mapping complete			
	Basis of Design document			
	Horizontal Single Line Drawing (More Developed Track Chart)			
	Scaled Layout Plan - Existing and Proposed Track On Aerial Map			
	Preliminary Profile			
	Preliminary Cross Sections (100' intervals)			
	Preliminary Typical Sections			
	Preliminary Bridge Plans (New or Modification, include Type, Size and Location)			
	Preliminary Drainage Plan			
	Hydrologic and Hydraulic analysis			
	Geotech Boring plans (layout)			
	Preliminary Investigation of Utilities in Conflict with project			
	Initial Erosion and Sedimental Control			
	Initial Storm Water Management Plan			
	Initial Tree Survey			
	Identify Impacts to Adjacent Roadways/Bridges			
	Identify Preliminary ROW impacts with locality GIS Shape Files Overlay			
	Update to the Initial Limits of Disturbance			
	Engineer's Estimate (% contingency - follow TAP/white paper)			
	Quantity calculations to support Estimate			
60% Design Submittal	Preliminary Construction Schedule			
	Preliminary Constructability Review			
	Final Survey Plans			
	Completed Utility Relocation Plans			
	Basis of Design document			
	Soil Borings/Geotech Report			
	Drainage Plans with calculations book			
	Engineering Plans			
	- Existing Conditions plans, including utilities (SUE)			
	- Pre-final Horizontal and Vertical Alignment (plan & profile sheets)			
	- Cross Sections to Estimate Cut/Fill (50' intervals)			
	- Pre-final Typical Sections			
	- Details sheets			
	- Erosion & Sediment Control Plans			
	- Storm Water Management Plans			
	- Stormwater Pollution Prevention Plans			
	-Storm Water Facility Sheet (if applicable)			
	- Tree Clearing and Landscape Plans			
	- ROW/Property Acquisition Plans			
	- Roadway Improvement Plans (paving, demolition, pavement markings, etc.)			
	- Railroad Bridge Plans			
	- Roadway Bridge Plans (New or Modification)			
	- Maintenance of Traffic Plans (Roadway, Pedestrian, etc.)			
	- Construction Phasing Plans (Railroad)			
	- Signal Plans - Impacts and Modifications			
	Presentation plots (color)			
	Preliminary Specifications			
	Pre-final Limits of Disturbance to inform environmental clearances			
	Preliminary Impact Plates for CWA Permitting & Environmental Remediation			
	Quantities & Bid Items List			
	Quantity calculations to support Estimate			
	Engineer's Estimate (% contingency - follow TAP/white paper)			
	Construction Schedule			
	Constructability Review			

90%/Draft Final Plans	Final Specifications			
	Basis of Design document			
	Final Engineering Design Plans			
	- Existing Conditions plans, including utilities (SUE)			
	- Final Horizontal and Vertical Alignment (plan & profile sheets)			
	- Cross Sections to Estimate Cut/Fill (50' intervals)			
	- Final Typical Sections			
	- Details sheets			
	- Erosion & Sediment Control Plans			
	- Updated Storm Water Management Plans			
	- Updated Stormwater Pollution Prevention Plans			
	- Updated Storm Water Facility Sheet (if applicable)			
	- Final Limit of Disturbance			
	- Tree Clearing Plans			
	- Landscape Plans, Grading Plans			
	- Sealed Plats			
	- Final ROW/Property Acquisition Plans			
	- Roadway Improvement Plans (paving, demolition, pavement markings, etc.)			
	- Railroad Bridge Plans			
	- Roadway Bridge Plans (New or Modification)			
	- Maintenance of Traffic Plans (Roadway, Pedestrian, etc.)			
	- Construction Phasing Plans (Railroad)			
	- Signal Plans - Impacts and Modifications			
	Stamped and Sealed Contract Documents			
	Final Bid Quantities			
	Quantity calculations to support Estimate			
	Preparation of Bid Documents			
	Final Construction Schedule			
	Final Impact Plates for CWA Permitting			
	Construction Staging Plans			
	Engineer's Estimate (% contingency - follow TAP/white paper)			
100%/Final Plans/IFB (Permit Set)	Final plans (All of 90% plan set with all comments resolved):			
	- Existing Conditions plans, including utilities (SUE)			
	- Final Horizontal and Vertical Alignment (plan & profile sheets)			
	- Cross Sections to Estimate Cut/Fill (50' intervals)			
	- Final Typical Sections			
	- Details sheets			
	- Erosion & Sediment Control Plans			
	- Tree Clearing Plans			
	- Landscape Plans			
	- Final ROW/Property Acquisition Plans			
	- Roadway Improvement Plans (paving, demolition, pavement markings, etc.)			
	- Railroad Bridge Plans			
	- Roadway Bridge Plans (New or Modification)			
	- Maintenance of Traffic Plans (Roadway, Pedestrian, etc.)			
	- Construction Phasing Plans (Railroad)			
	- Final Storm Water Management Plans			
	- Final Stormwater Pollution Prevention Plans			
	- Final Storm Water Facility Sheet (if applicable)			
	- Signal Plans - Impacts and Modifications			
	Final permit documents			
	Virginia Reduction Runoff Method (VRRM)			
	Stamped and Sealed Contract Documents			
	Final Bid Quantities			
	Final Construction Cost Estimate			
	Final Construction Schedule			
	Final Bid Documents			
IFC	Issue for Construction Plans			