

Field Inspection



Cost Estimate Package (CEP)

UPC #: 107453

Project #: 0753-029-509

Project Name: Route 753, Old Country Road



Submitted to



**NOVA District
Location and Design
Ms. Jane Doe
Project Manager**

Submitted by

XYZ Consulting

December 1, 2021

Field Inspection

Cost Estimate Package (CEP)

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FI Estimate

UPC 107453 | Route 753 Old Country Road | Project #: 0753-029-509

Project Milestone: Field Inspection (FI)

Cost Estimators Contact Information:

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Basis of the Estimate: The project is located in Fairfax County, Northern Virginia (NOVA) District and categorized as an Urban, Tier 1, Moderately Complex project. The project scope includes widening of Route 753 (Old Country Road) between Beach Road and Valley Road. The quantities used to develop the estimate are derived from FI plans dated 09/25/21, located in VDOT ProjectWise. See *Attachment 4* for examples of Typical Section and Sequence of Construction from the FI plans.

Estimate Type: A quantity/bid based estimate is used. At the FI stage, the design is 75% complete and a clearer breakdown of the project pay items are available. See *Attachment 5* for a breakdown of the pay items and quantities.

Estimate Software Tool(s) and Cost Summary Table

Cost Estimate Milestone Phase	Software Tool Used	Total Project Cost Estimate (PE+RW+CN), excluding inflation
<i>Pre-Scoping</i>	<i>PCES</i>	<i>\$13,784,840.55</i>
<i>Final Scoping</i>	<i>PCES, Culpeper Cost Estimating</i>	<i>\$12,531,673.22</i>
<i>Public Hearing</i>	<i>AASHTOWare Precon</i>	<i>\$13,474,917.45</i>
Field Inspection	AASHTOWare Precon; Statewide Bid Tabs Query	\$12,833,254.71
<i>PAC</i>	<i>TBD</i>	<i>TBD</i>

Estimate Process: The following process is used to develop the project estimate.

- Determine the estimate basis (Field Inspection plans)
- Prepare the estimate for the known items (Defined Cost)
- Determine cost for known unknowns (Allowances)
- Update the Risk Register and determine risk for each discipline at this milestone
- Set a risk-based contingency for each discipline
- Complete the Cost Estimate Workbook (CEWB) to summarize the project costs, risk contingencies and assumptions
- Assemble the Cost Estimation Package (to include a narrative, CEWB, supporting documentation, exhibits, risk register, quantity back up, unit prices used, and estimating checklist)

Project Estimate: The project team developed estimates for Preliminary Engineering (PE), Right of Way (RW), Utilities (UT) and Construction (CN) phases. The Defined Costs, Allowances and Risks for each phase are summarized below.

Preliminary Engineering (PE)

Defined Cost: Preliminary Engineering costs, as finalized at scoping phase are used. No changes are made from the previous project milestone. See *Attachment 6* for more details.

Allowances: All PE costs are finalized and there are no allowances (known- unknowns) at this stage.

Risk Contingency: 5% phase level risk contingency is used.

Right of Way (RW)

Defined Cost: Right of Way costs are calculated using the right of way and easement areas from the FI plans. PCES worksheet is used to summarize the right of way costs. See *Attachment 7* for more details. (Reference: *VDOT Right of Way Cost Estimate Guide* http://www.vdot.virginia.gov/business/resources/Right_of_way/Right_of_Way_Cost_Estimate_Guide.pdf)

Allowances: There are no allowances (known- unknowns) at this stage of the project.

Risk Contingency: 30% phase level risk contingency is used.

Utilities (UT)

Defined Cost: Utility costs are calculated based on the utility conflicts shown in the FI plans. PCES worksheet is used to summarize the utility costs. See *Attachment 8* for more details. (Reference: *VDOT Right of Way Cost Estimate Guide* http://www.vdot.virginia.gov/business/resources/Right_of_way/Right_of_Way_Cost_Estimate_Guide.pdf)

Allowances: There are no allowances (known- unknowns) anticipated at this phase.

Risk Contingency: 30% phase level risk contingency is used.

Construction (CN)

Defined Cost: During this phase of estimating, all project pay items are identified and quantified. Quantities are estimated based on the level of detail included in the FI plans. The

final estimate is prepared by AASHTOWare Pre-Construction Software. The unit prices are supported with Statewide Bid Tabs Query. See *Attachment 10* for more details.

Allowances: At FI milestone (75% design), all pay items are quantified. Allowances (known-unknowns) identified in previous phases (e.g. MOT costs and E&S costs) are converted in to Defined Costs (known-known) in this estimate.

Risk Contingency: The project is categorized as Moderately Complex project. A detail risk register is developed for the project and a qualitative risk assessment and top-down Type 1 Percentage contingency is used for calculating the risk contingency. See *Attachment 9* for the Risk Register updated at the FI phase.

Estimating Assumptions and Changes made from the previous project milestone: The project is assumed to be advertised in July 2024. Construction is expected to start in Fall 2024 and last for one (1) year. Below are some of the other assumptions made in preparing this cost estimate.

	Discipline	Changes made from Previous Project Milestone (PH)	Assumptions
RW and Utilities	Right-of-Way Acquisition	Property Designations are complete	Right of way and easements identified. Appraisals and offers to be completed
	Out-of-Plan Utilities (power, cable, gas, etc.)	Sub-surface Utility Designation and identification of the utilities are complete. Long lead utilities and utility schedule identified	Discovery of undesignated utilities could impact utility relocations and project complexity. Gas, and power relocations are not anticipated.
	VDOT Project RW Oversight	No change from PH	Risk on additional oversight for relocation and condemnation services. Some adjustments to fiber lines are anticipated and the fiber companies are responsible for the relocations
Construction	Mobilization/Constr. Survey		Mobilization is assumed as 6% of construction cost; Construction survey is assumed as 1% of construction cost
	MOT	FI plans included quantities such as Group II channelizing devices and additional signs	Temporary disruptions to business / residential access anticipated; lane closure and flagging anticipated; assumed a construction duration of 1 year;
	Roadway	Pavement design finalized. Roadway quantities estimated based on FI Plans	
	Hydraulics	Drainage, SWM identified, and E&S quantities estimated based of FI plans.	Detail quantities for SWM pond grading, bio swales, rip raps to be further developed into the PAC plans.
	In-plan Utilities	N/A	Contractor to perform additional test holes during construction
	Traffic	Traffic quantities estimated based on FI plans	Minor changes anticipated in the final PAC plans
	Structures/Bridges	N/A	N/A
	Earthwork/Geotech	Preliminary Geotech investigation is complete from which the appropriate pavement structure quantities are derived	Undercut quantities are assumed based on preliminary Geotech investigations. Rock excavation is not expected.

Estimating Exclusions:

- Relocation of the Natural Gasoline Pipeline

Inflation: The inflation table shown at the bottom of the CEWB is for information only. The final inflation calculation will be applied in PCES based on the dates entered for estimate, construction advertisement date and construction duration.

Estimating Challenges:

- Establishing quantities for all pay items to ensure that there are not many fluctuations in the cost estimate as the project moves into the Pre-Advertisement Conference (PAC) phase.
- Developing design details, specifications, and measurement and payment for non-standard items.
- Development of utility relocation plans and possible design revisions.
- Discovery of un-designated utilities which could impact utility relocations and project schedule.
- Coordination with all stakeholders to ensure mitigation measures are identified for temporary disruptions during construction.
- Material fabrication and procurement costs are uncertain due to the uncertain market conditions.
- Providing an estimate that reflects the projected work load resources (Labor and Rental Equipment) of the region where the project is located.

Reference(s):

1. Link to the Cost Estimating Manual. [VDOT_Cost_Estimating_Manual.pdf \(virginiadot.org\)](http://www.virginiadot.org/VDOT_Cost_Estimating_Manual.pdf)
2. This CEP can be found at the following link on ProjectWise:
pw:\\vdot-pw.bentley.com:PW\Documents_Projects\Nova\107453\Estimates

Attachments:

Attachment 1 – Checklist

Attachment 2 – CEWB FI Cost Summary

Attachment 3 – CEWB FI Assumptions

Attachment 4 – Examples of Typical Section and Sequence of Construction

Attachment 5 – Construction (CN) Quantity Line-Item Breakdown

Attachment 6 – Preliminary Engineering (PE) Cost Breakdown

Attachment 7 – Right of Way (RW) Cost Breakdown

Attachment 8 – Utilities (UT) Cost Breakdown

Attachment 9 – Risk Register

Attachment 10 – AASHTOWare Preconstruction Line-Item Unit Cost Breakdown

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Cost Estimate Package (CEP)

FI Estimate



Attachment 1 – Checklist

FI ESTIMATE REVIEW CHECKLIST

Version 2/28/20

PROJECT INFORMATION		√-it appears to the reviewer that item is included
Enter project description	X- item does not appear correct in estimate- revise estimate or document in the Design Assumptions	
County	Fairfax	N/A- it is obvious that this item does not apply (or else documentation is included in the Design Assumptions)
Estimate by	abc	
Review by	xyz	
Date	10/15/2021	

PRELIMINARY ENGINEERING ESTIMATE

✓ or X	PE ESTIMATE ITEMS	Notes
√	A.1 Project length is not too short for estimates based on mile/feet norms (should be >2000' with Culpeper PE tool)	
√	A.2 PE estimates account for consultant vs. VDOT staff work for major items and assumption is documented	
√	A.3 Estimate includes all aspects of engineering design (roadway, drainage, SWM, TCD, MOT, E&S)	
√	A.4 Reasonable design complexity and manhour rates selected when using the Culpeper PE tool	
√	A.5 Specialty design disciplines are included (lighting, signals, water/sewer utilities, landscaping, noise/retaining wall, bridges)	
N/A	A.6 Preliminary engineering costs for railroad coordination included	No railroad on the project
√	A.7 Nutrient credits included as recommended by the Hydraulics Engineer	nutrient credits not needed for the project
√	A.8 Survey costs included and approved by District Survey Manager (photogrammetry/utilities/processing/RW plans/test	
√	A.9 All Environmental costs are included (NEPA document, stream/wetland mitigation, CR studies, noise studies, hazmat, etc.)	
√	A.10 Detailed Environmental estimate provided if costs > \$50,000, and is included with the supporting estimate files	
√	A.11 Costs included for soils investigation and geotechnical testing and design	soil investigation and geotech testing and design to be provided by consultant
√	A.12 Costs included for projects with exceptional public outreach (paid advertising or many meetings/workshops)	
√	A.13 Traffic studies are included (signal warrants, IJR/IMR, intersection analysis, etc.) or already finished (most new projects)	
√	A.14 VDOT review and coordination is fully accounted for (project management, section and C.O. reviews, contract dev., etc.)	
√	A.15 Contingency and inflation for PE is appropriately considered and documented (inflation not needed for Smart Scale)	
	Note	

RIGHT OF WAY ESTIMATE

✓ or X	PROPERTY ACQUISITION ITEMS	Notes
√	B.1 RW Estimate documentation is provided (preferably from VDOT RW/Utilities via PCES or other document)	PCES
√	B.2 RW Estimate includes all items: damages, condemnation, administrative costs, areas for fee R/W, perm. & temp. easements	see PCES backup
N/A	B.3 Donated R/W includes administrative costs and the accepted risk is documented and communicated.	
N/A	B.4 Residential and business relocations are included in the estimate as needed.	no relocations anticipated
√	B.5 Contingency and inflation for RW is appropriately considered and documented (inflation not needed for Smart Scale)	
	Note	

✓ or X	OUT-OF-PLAN UTILITY ITEMS	Notes
√	C.1 All out-of-plan utility impacts included in estimate, to a conservative degree unless otherwise documented	
√	C.2 Assumed narrowly avoided high cost utilities are documented and possible avoidance mitigation options listed for worst case	
√	C.3 Utility estimate includes inspection and administrative costs	
√	C.4 Contingency and inflation for utilities is appropriately considered and documented (inflation not needed for Smart Scale)	
	Note	

FI ESTIMATE REVIEW CHECKLIST

Version 2/28/20

CONSTRUCTION ESTIMATE

✓ or X	GRADING ITEMS		Notes
✓	D.1	Is clearing/grubbing included?	
✓	D.2	Is regular excavation/borrow included?	
✓	D.3	Is adjustment made for possible rock excavation?	
✓	D.4	Is contingency made for unsuitable excavation?	
✓	D.5	If slopes steeper than 2:1 are assumed, is slope stabilization accounted for in accordance with material recommendations?	
	Note		
✓ or X	DRAINAGE ITEMS		Notes
✓	E.1	Is a drainage estimate provided by the Hydraulics Engineer and saved with the supporting estimate files?	
✓	E.2	Does the drainage estimate include closed drainage, driveway culverts, inlets, underdrain, etc.?	
✓	E.3	Are stormwater management facilities accounted for?	SWM design is based on FI plans
✓	E.4	Is construction and/or removal of large drainage structures accounted for?	
n/A	E.5	Have nutrient credits been removed from the drainage estimate and included in PE?	
n/a	E.6	Does the drainage estimate account for atypical design such as shoulder gutter or tilted plane roundabout slot drains?	
✓	E.7	Are erosion & sediment control measures accounted for?	detail erosion and sediment control plans are developed
	Note		
✓ or X	PAVEMENT ITEMS		Notes
✓	F.1	Does pavement width account for shoulders, bike lanes, turn lanes, intersection radii, asphalt under MS-1, etc.?	
✓	F.2	Does pavement length accommodate superelevation & grade transitions?	
✓	F.3	Are commercial entrances and parking lot reconstruction/replacement/relocation accounted for?	
✓	F.4	Are private entrance impacts accounted for?	
✓	F.5	Are overlay sections accounted for with milling and paving? Does overlay depth account for cross slope correction?	
✓	F.6	Is demolition of pavement accounted for, including entrances, connections, and parking areas?	
✓	F.7	Is the road realigned? Is obscuring roadway needed?	roadway is following the same alignment
✓	F.8	Is significant saw-cut expected and accounted for (especially for widening jobs)?	sawcut is quantified
✓	F.9	Does the estimate use the pavement design provided by the Materials Engineer? Is the pavement section reasonable?	
✓	F.10	Are the material weights used for estimating reasonable?	
✓	F.11	Does the aggregate quantity include base under curb & gutter, entrance aprons, etc.?	
N/A	F.12	Is inside and outside truck apron included as needed (primarily roundabouts)?	
N/A	F.13	Is shared-use path or separated bike lanes included in asphalt calculations?	no bicycle facilities on the project
N/A	F.14	Are rumble strips being replaced or newly installed?	
	Note		
✓ or X	ROADWAY INCIDENTAL ITEMS		Notes
✓	G.1	Are concrete items such as curbing, gutter, medians, sign islands, entrance aprons, etc. included?	
✓	G.2	Is asphalt curbing included on shoulder fill sections where recommended by hydraulics?	
n/a	G.3	Is shoulder gutter included for bifurcated arterial highway medians if need is likely? (RCUT projects especially)	shoulder gutter not proposed
n/A	G.4	Is sidewalk accounted for in sufficient extent as shown on the drawing?	no pedestrian facilities proposed

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√	G.5	Is estimate sufficient to upgrade all curb cuts within the project limits per ADA and DOJ requirements?	
n/a	G.6	Are stairs and handrails included where necessary and logical?	
√	G.7	Is sufficient handrail included to protect users from dropoff and slope hazards? Is the correct type (HR-2 vs. 3) counted?	
√	G.8	Is impacted private sidewalk and steps replaced and connected to proposed facilities?	
√	G.11	Is guardrail or barrier included where it appears to be warranted? Is impacted guardrail removal and replacement included?	MGS guardrail proposed
√	G.12	Do barrier costs include terminals, fixed object attachments, powder coating, etc., as needed?	
n//a	G.13	Is median barrier included where appropriate?	median barrier is not needed
√	G.14	Is removal of other significant items such as guardrail, large structures, etc., included?	
√	G.15	Is fencing included where private fence impacts are significant? Does cost account for bracing/gates/board fence?	
√	G.16	Is fencing included for SWM basins (per ponded depth), or for limited access lines?	
√	G.17	In residential areas with a high number of mailboxes, has their relocation been accounted for?	
N/A	G.18	Are building demolitions included in the estimate? Parcel clearing? Removal of tanks, major signs, etc.? Well closings?	
N/A	G.19	Are amenities included as needed for park & ride and streetscape projects? (shelters, charging, trashcans, bike racks, furniture)	
	Note		
√ or X	STRUCTURE & BRIDGE ITEMS		Notes
N/A	H.1	Is retaining wall included as a mitigation option for constrained areas? Is an appropriate type used in the estimate?	
N/A	H.2	Are all components of retaining wall work (concrete, excavation, backfill, handrail, guardrail) included in the estimate?	
N/A	H.3	Is the bridge estimate provided by the Bridge Engineer and saved with the supporting estimate files?	
N/A	H.4	Are temporary bridges and structures accounted for?	
N/A	H.5	Is removal of existing structures accounted for?	
N/A	H.6	Does bridge estimate include MOT, temporary paving & grading? Has any overlap with the road estimate been subtracted out?	
√ or X	TEMPORARY TRAFFIC & CONSTRUCTION ITEMS		Notes
√	I.1	Does the estimate appear sufficient to accommodate Maintenance of Traffic (% or other method)? Review on large projects.	
√	I.2	Is the MOT estimated adjusted downward for significant work (such as bridges) out of traffic?	
√	I.3	Are temporary signals or temporary signal modifications included in the estimate?	
√	I.4	Is field office accounted for?	yes. assumed 14 months
√	I.5	If the project has signal work, nightwork, or interstate work, is police included?	
√	I.6	Are additional safety items included as needed, such as temporary barrier, attenuators, or sheet piling?	
√	I.7	If a temporary diversion is needed, is temporary pavement and grading added?	
N/A	I.8	Can roundabout truck aprons be built out of traffic? If not, is the diversion accounted for in the estimate?	
	Note		
√ or X	PLANTING ITEMS		Notes
√	J.1	Is roadside development (seeding) included in the estimate?	estimate is based on the roadside development sheet
√	J.2	Does the estimate include measures to protect slopes and promote turf establishment (topsoil, temporary seed, etc.)?	
√	J.3	Is landscaping considered in the estimate? Consider roundabouts and sensitive urban areas.	no special landscaping is proposed
√ or X	PERMANENT TRAFFIC CONTROL DEVICE ITEMS		Notes
√	K.1	Is signing accounted for, including new, removed, and modified overhead structures?	
√	K.2	For smaller projects with overhead sign impacts or work, has the scope been reviewed with TE and documented?	

FI ESTIMATE REVIEW CHECKLIST

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√		K.3 Are pavement markings accounted for, and not just line markings if symbol markings, gores, etc. are needed?	
n/a		K.4 Are special treatments for bicycle facilities included? (green pavement, flexible posts, etc.)	bicycle facilities not proposed on the project
√		K.5 Are proposed signals included in the estimate? Are existing signal removals/modifications included?	
n/a		K.6 Are signal modifications included as needed for bicycle and pedestrian facilities? Are APD/APS upgrades included?	
√		K.7 Is the signal estimate provided by the Traffic Engineer and saved with the supporting estimate files?	
N/A		K.8 Is roundabout lighting included and in-line with recent projects?	
N/A		K.9 Is lighting included for medium and high density park & ride lots?	
n/a		K.10 Is lighting included at other locations recommended by Traffic Engineering (interchanges, etc.)?	
n/a		K.11 Have impacts to traffic cameras and other ITS infrastructure been accounted for?	
		Note	
√ or X	IN-PLAN UTILITY ITEMS		Notes
√	L.1	Is the water utility estimate provided by the Utilities Coordinator and saved with the supporting estimate files?	
√	L.2	Is the sanitary sewer utility estimate provided by the Utilities Coordinator and saved with the supporting estimate files?	
		Note	
		Note	
√ or X	ENVIRONMENTAL MITIGATION CONSTRUCTION ITEMS		Notes
√	M.1	Are noise walls included in the estimate as coordinated with the Environmental section?	no noisewalls proposed
√	M.2	Have underground tank removals and possible contaminated soil remediation been accounted for?	none identified in Env studies
√	M.3	Have on-site stream and wetland remediation/mitigation been included when indicated by the Environmental section?	none identified in Env studies
√	M.4	Have specialty Environmental estimates been saved with the supporting estimate files, and not double counted with PE?	
		Note	
√ or X	NON-BID INCIDENTAL ITEMS		Notes
N/A	N.1	Is the railroad construction estimate provided by the Railroad Coordinator and saved with the supporting estimate files?	
√	N.2	Are RW Monuments considered on projects where they may be non-negligible?	
		Note	
√ or X	CONTRACT OVERHEAD AND ADDITIVES		Notes
√	O.1	Is mobilization and construction surveying included?	6% for mobilization and 1% for survey
√	O.2	Has design contingency been added by work category, appearing reasonable based on level of risk and level of development?	
√	O.3	Is design contingency within the suggested contingencies or otherwise documented?	
√	O.4	Is CEI included and sufficient for the project size (typically 20% if <\$20M)? Has Construction reviewed very large projects?	
√	O.5	Have some incentives been included, and has construction reviewed very large projects or projects with major impacts?	
√	O.6	Has a minimum 5 to 10% contract contingency for claims and work orders been included over all bid items?	
√	O.7	Have all non-bid items been properly added and excluded from mobilization, CEI, contract contingency calculations?	
√	O.8	Has sufficient inflation been included for projects not applied for via the Portal (not needed for Smart Scale)?	
√	O.9	Is the final estimate in the format prescribed by Central Office L&D?	
		Note	

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Cost Estimate Package (CEP)

FI Estimate



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**Attachment 2 – CEWB Cost Estimate
Tracking**

COST ESTIMATE WORKBOOK (CEWB)
COST SUMMARY

SYIP PROJECTS DETAILED PROJECT COST ESTIMATE SUMMARY (DRAFT Version: November 2021)					
Portal ID:			Project UPC:	107453	
Prepared By:	xyz		Milestone:	Field Inspection	
Reviewed By:	abc		Date:	10/26/2021	
County/City/Town:	County	Fairfax County (29)		Tier Level:	1
Project Complexity Classification	Moderately Complex		Estimate Type:	PCES	

Preliminary Engineering Phase ⁷ Ensure input where required. If no value then enter "0"						
Project Estimate Component						
Discipline	Source	Defined(\$)	Allowance*			Total
Roadway	Consultant	\$ 466,455.00				\$ 466,455.00
Hydraulics	Consultant	\$ 161,909.00				\$ 161,909.00
In-plan Utilities	Consultant	\$ 11,983.00				\$ 11,983.00
Traffic	Consultant	\$ 66,100.00				\$ 66,100.00
Structures/Bridges	Consultant					\$ -
Materials/Geotech	Consultant	\$ 51,233.00				\$ 51,233.00
Survey/SUE/Quality Level A SUE	Consultant	\$ 289,419.00				\$ 289,419.00
Environmental	Consultant	\$ 30,000.00				\$ 30,000.00
Right of Way	Consultant	\$ 55,800.00				\$ 55,800.00
Other	Consultant					\$ -
VDOT Project PE Oversight	Similar Project	\$ 173,250.00				\$ 173,250.00
VDOT PE Oversight on Local Assistance Projects	Total entered from LAD Spreadsheet					\$ -
	SUBTOTAL PE PHASE ESTIMATE (Without Contingency)	\$ 1,306,149.00	\$ -	<u>Select Phase Risk Type Below</u>	Contingency % (Value of Risk)	
Phase Risk Type and Contingency (Value of Risk):				Type 1 Percentage	5.00%	\$ 65,307.45
Use only if applying one contingency to entire phase. For Type 1 enter % amount For Type 2 enter \$ amount						
TOTAL PE PHASE ESTIMATE						\$ 1,371,456.45
Phase dates (XX/XX/XXXX)	PE Base Estimate Date	10/15/2021				
	Start Date	6/1/2022				
	End Date	10/1/2023				

Right-of-Way & Utilities Phase For Contingency Values please refer to the ROW Manual Section 2						
Discipline	Source	Defined (\$)	Allowance*	Select Phase Risk Type Here (if using different contingency values for each discipline)	Contingency (Value of Risk)	Total
Right-of-Way Acquisition	Other	\$ 361,272.00				\$ 361,272.00
Out-of-Plan Utilities (power, cable, gas, etc.)	Other	\$ 305,368.00				\$ 305,368.00
VDOT Project RW Oversight	Select					\$ -
VDOT RW/UT Oversight on Local Assistance Projects	Total entered from LAD Spreadsheet					\$ -
	SUBTOTAL RW PHASE ESTIMATE (Without Contingency)	\$ 666,640.00	\$ -	RW Contingency:		\$ -
Phase Risk Type and Contingency (Value of Risk):				Type 1 Percentage	30.00%	\$ 199,992.00
Use only if applying one contingency to entire phase. For Type 1 enter % amount For Type 2 enter \$ amount						
TOTAL RW PHASE ESTIMATE						\$ 866,632.00
Phase dates (XX/XX/XXXX)	RW Base Estimate Date	10/16/2021				
	Start Date	1/1/2023				
	End Date	1/1/2024				

Construction Phase Ensure input where required. If no value then enter "0"; Total shown is dependent on Risk Type (Phase or Discipline)						
Discipline	Source	Defined (\$)	Allowance*	Discipline Risk Type (Use when selecting many)	Contingency (Value of Risk)	Total
Mobilization/Constr. Survey	Consultant	\$ 426,000.00	\$ -	Type 1 Percentage	25.00%	\$ 532,500.00
MOT	Consultant	\$ 536,593.00	\$ -	Type 1 Percentage	25.00%	\$ 670,741.25
Roadway	Consultant	\$ 2,875,870.00	\$ -	Type 1 Percentage	20.00%	\$ 3,451,044.00
Hydraulics	Consultant	\$ 253,357.00	\$ -	Type 1 Percentage	25.00%	\$ 316,696.25
In-plan Utilities	Consultant	\$ 9,529.00	\$ -	Type 1 Percentage	20.00%	\$ 11,434.80
Traffic	Consultant	\$ 293,300.00	\$ -	Type 1 Percentage	15.00%	\$ 337,295.00
Structures/Bridges	Consultant	\$ -	\$ -	Select		
Earthwork/Geotech	Consultant	\$ 1,789,018.00	\$ -	Type 1 Percentage	25.00%	\$ 2,236,272.50
Environmental/Soundwalls	Consultant	\$ 522,875.00	\$ -	Type 1 Percentage	25.00%	\$ 653,593.75
Other	Consultant	\$ 262,209.08	\$ -	Type 1 Percentage	20.00%	\$ 314,650.90
	Total Bid Items	\$ 6,968,751.08	\$ -			\$ 8,524,228.45

**COST ESTIMATE WORKBOOK (CEWB)
COST SUMMARY**

Construction Phase						
Ensure input where required. If no value then enter "0"; Total shown is dependent on Risk Type (Phase or Discipline)						
Discipline	Source	Defined (\$)	Allowance*	Discipline Risk Type (Use when selecting many)	Contingency (Value of Risk)	Total
VDOT Project CN Oversight	Similar Project	\$ 278,750.04	\$ -	Type 1 Percentage	0.00%	\$ 278,750.04
VDOT CN Oversight on Local Assistance Projects	Total entered from LAD Spreadsheet					\$ -
					Oversight Total	\$ 278,750.04
Incidental-Claims & Change Orders (5-10% of Total Bid Items)	5.00%	\$ 348,437.55	\$ -	Select		\$ 348,437.55
Railroad Flagging/Coordination		\$ -	\$ -	Select		
State Forces		\$ 20,000.00	\$ -	Type 1 Percentage	0.00%	\$ 20,000.00
State Police		\$ 30,000.00	\$ -	Type 1 Percentage	0.00%	\$ 30,000.00
Contract Requirements (Incentive/Disincentive; 5% max)	2.00%	\$ 139,375.02	\$ -	Select		\$ 139,375.02
Total Non-Bid Items		\$ 537,812.58	\$ -			\$ 537,812.58
				CN Contingency		
Phase Risk Type and Contingency (Value of Risk):						
Use only if applying <u>one</u> contingency to entire phase. For Type 1 enter % amount				For	Select	
				Type 2 enter \$ amount		
See Section 5.4.3 in PreCON Manual					Total CN Estimate without CEI	
						\$ 9,340,791.06
Construction Engineering (CEI) Source:		Percentage				
CEI Environmental Inspection (Enter %)	1.00%	\$ 69,687.51	\$ -	Select	0	\$ 69,687.51
CEI VDOT or Locality (Enter %)	12.00%	\$ 836,250.13	\$ -	Select	0	\$ 836,250.13
CEI Oversight Costs (Enter %)	5.00%	\$ 348,437.55	\$ -	Select	0	\$ 348,437.55
					Total CEI	\$ 1,254,375.19
					Total CN Estimate	\$ 10,595,166.26
Phase dates (XX/XX/XXXX)	CN Base Estimate Date	10/16/2021				
	Start Date	1/1/2024				
	End Date	6/25/2025				
TOTAL PROJECT COST ESTIMATE (excluding inflation) (PE+RW+CN)						\$ 12,833,254.71

SYIP Total Project Cost Estimate Summary				Date of Current Cost	Inflation Factors	Future Cost (including inflation)
				10/16/2021		
Phase	Base Estimate (\$) = (Defined (\$) + Allowances (\$))	Contingency (\$)	Contingency (%)	Total Phase*	Inflation**	Total Cost***
PE Phase Estimate	\$ 1,306,149.00	\$ 65,307.45	5.00%	\$ 1,371,456.45	1.0190	\$ 1,397,514.12
RW Phase Estimate	\$ 666,640.00	\$ 199,992.00	30.00%	\$ 866,632.00	1.0465	\$ 906,941.65
CN Phase Estimate(without CEI)	\$ 7,785,313.70	\$ 1,555,477.37	19.98%	\$ 9,340,791.06	1.0674	\$ 9,970,764.47
Total CEI	\$ 1,254,375.19	\$ -	16.11%	\$ 1,254,375.19	1.0674	\$ 1,338,974.35
CN Phase Estimate(with CEI)	\$ 9,039,688.89	\$ 1,555,477.37	17.21%	\$ 10,595,166.26	1.0674	\$ 11,309,738.81
Total Estimate	\$ 11,012,477.89	\$ 1,820,776.82		\$ 12,833,254.71		\$ 13,614,194.59

* Use combined Defined, Allowance and Contingency Costs into SMART Portal or PCES workbook. Total includes Oversight costs.
 ** Inflation rates taken from SMART Portal or PCES workbook.
 *** Total Costs should match with total costs in SMART Portal or PCES.

Percentages for Entry into SMART Portal:	Dollar Amounts for Entry into SMART Portal:
PE Phase Contingency = 5.00%	PE Phase Total = \$ 1,306,149.00
RW Phase Contingency = 30.00%	RW Phase Total = \$ 666,640.00
CN Phase Estimate (without CEI) Contingency = 19.98%	CN Phase Estimate (without CEI) Contingency = \$ 7,785,313.70
CEI percentage (includes contingency for CEI) = 16.11%	CEI \$ amount = \$ 1,254,375.19

UPC #: 107453

Project #: 0753-029-509

Project Name: Route 753, Old Country Road

Cost Estimate Package (CEP)

FI Estimate



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**Attachment 3 – CEWB Assumptions
Tracking**

**COST ESTIMATE WORKBOOK (CEWB)
ASSUMPTIONS**

**SVIP PROJECTS
DOCUMENTATION OF ASSUMPTIONS AND CHANGE COMMENTS**

	Delete Prescope Assumptions	Delete PFI Assumptions	Delete PH Assumptions	Delete FI Assumptions	Delete PAC Assumptions
Preliminary Engineering	Creation / Pre-scope (prior to project initiation)	Final Scoping / Preliminary Field Inspection (PFI)	Public Hearing Team Meeting	Field Inspection Meeting	Pre-advertisement Conference Team Meeting
Roadway					
Hydraulics					
In-plan Utilities					
Traffic		additional traffic studies may be needed			
Structures/Bridges					
Materials/Geotech		additional soil borings may be needed depending on the length of the wall. Additional soil filtration tests may be needed for bioswales			
Survey					
Environmental		potential for additional cultural resource studies			
Right of Way		13 parcels assumed for defined scope. More parcels may be needed depending on final design			
Other	This is a Pre-scoping stage of a Project Estimate using a Analogous Methodology wherein the quantities are not defined.				
VDOT Project PE Oversight	This is a Pre-scoping stage of a Project Estimate using a Analogous Methodology wherein the quantities are not defined.				
VDOT PE Oversight on Local Assistance Projects					
Right-of-Way & Utilities					
Right-of-Way	Based on aerial photo	preliminary right of way identified. Additional right of way may be needed. Utility easements unidentified at this stage.	Right of way defined. Preliminary easements defined. Potential for additional right of way for signal poles, PH signs etc.	Defined cost is based on identified Right of way and easements based on FI plans. Contingency includes unanticipated escalation in ROW values, additional ROW/ easements, counter offers, condemnation costs	
Out-of-Plan Utilities (power, cable, gas, etc.)	based on aerial photo and field walk	Utility designations being performed and preliminary test pitting to verify designation. Permit work being performed after designations could create non-determined utility conflicts	Plan changes derived from PH could change scope of utility impacts. Historical right of way impacts could delay utility relocations. Project schedule change could impact utility relocation schedule	Defined cost based on historic data. Contingency includes protecting existing utilities, unidentified utility impacts, late design changes that create additional utility conflicts	
VDOT Project RW Oversight	Based on field walk and aerial photo	risk on additional oversight for relocation and condemnation services	risk on additional oversight for relocation and condemnation services	contingency to include additional oversight for relocation and condemnation services	
VDOT RW/UT Oversight on Local Assistance Projects					
Construction					
Mobilization/Constr. Survey				Mobilization is 6% and construction survey is 1% of the construction cost	
MOT		defined cost based on percentage. Phased construction and temporary signal may be needed	quantities based on preliminary MOT plans. Major MOT items quantified	Temporary disruptions to business/ residential access anticipated; lane closure and flagging anticipated; assumed a construction duration of 1 year;	
Roadway		Pavement design not finalized.	Pavement design finalized. Some roadway incidentals not quantified	Pavement design finalized. Some roadway incidentals not quantified. Roadway quantities estimated based on FI Plans.	
Hydraulics		size of the drainage pipes and SWM facilities unknown; cost of nutrient credits unknown	drainage pipes, inlets quantified based on PH plans. Major culverts, headwalls, end sections quantified. Quantities for SWM pond grading, bio swales, rip raps to be developed further.	drainage, SWM and E&S quantities estimated based on FI plans. Quantities for SWM pond grading, bio swales, rip raps to be developed further. Revisions to plans anticipated. Detail quantities for SWM pond grading, bio swales, rip raps to be further developed into the PAC plans.	
In-plan Utilities		Additional relocation may be needed with final design	length of utility relocations identified. Size, connection details unknown	Contractor to perform additional test holes during construction	
Traffic		Assumed cost based on 5% of construction cost	only major traffic items known. sign sizes, sign support type unknown.	traffic quantities estimated based on FI plans. Change in quantities expected after FI reviews. Minor changes anticipated in the final PAC plans	
Structures/Bridges				N/A	
Earthwork/Geotech		estimate based on preliminary earthwork quantities.	earthwork quantities developed further. SWM grading, ditch grading to be finalized	quantities estimated based on FI plans. Additional details to be developed further. Undercut quantities were assumed based on preliminary geotech investigations. need for additional rock excavation	
Environmental/Soundwalls		noise analysis complete, contaminated soils identified			
Other	Based on parametric estimating using PCES				
VDOT Project CN Oversight	4% of the construction cost	4% of the construction cost	4% of the construction cost	4% of the construction cost	
VDOT CN Oversight on Local Assistance Projects					
Incidental-Claims & Work Orders (5-10% of Total Bid Items)					
Railroad Flagging/Coordination					
State Forces					
State Police					
Contract Requirements (Incentive/Disincentive; 5% max)					

UPC #: 107453

Project #: 0753-029-509

Project Name: Route 753, Old Country Road

Cost Estimate Package (CEP)

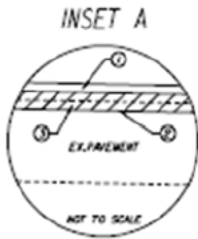
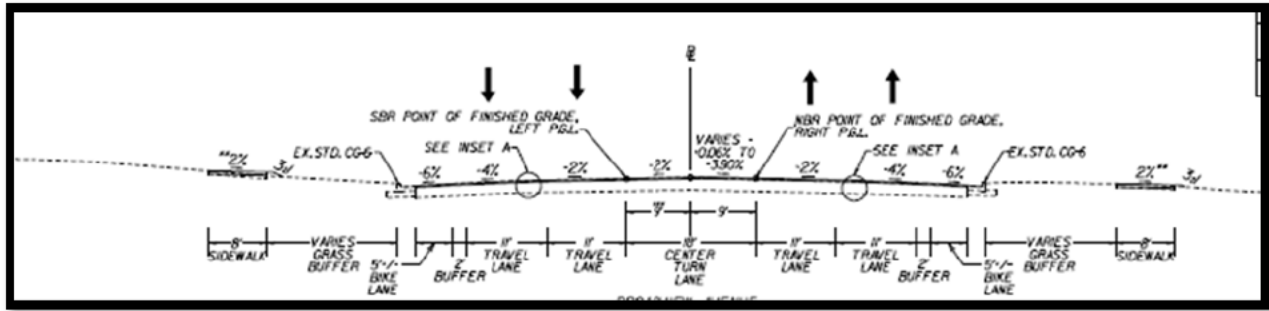
FI Estimate



4

**Attachment 4 – Examples of Typical
Section and Sequence of Construction**

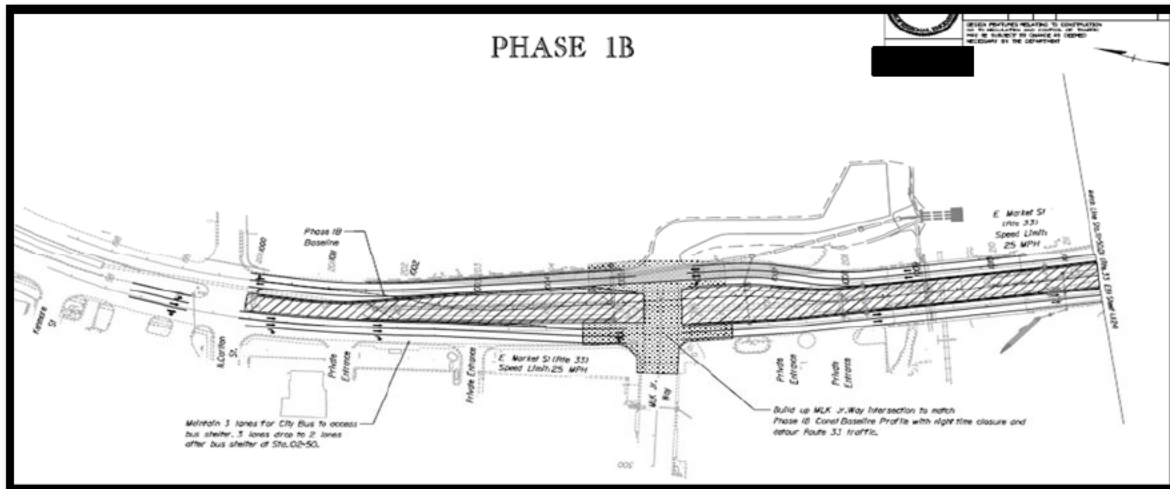
Typical Section



PAVEMENT LEGEND

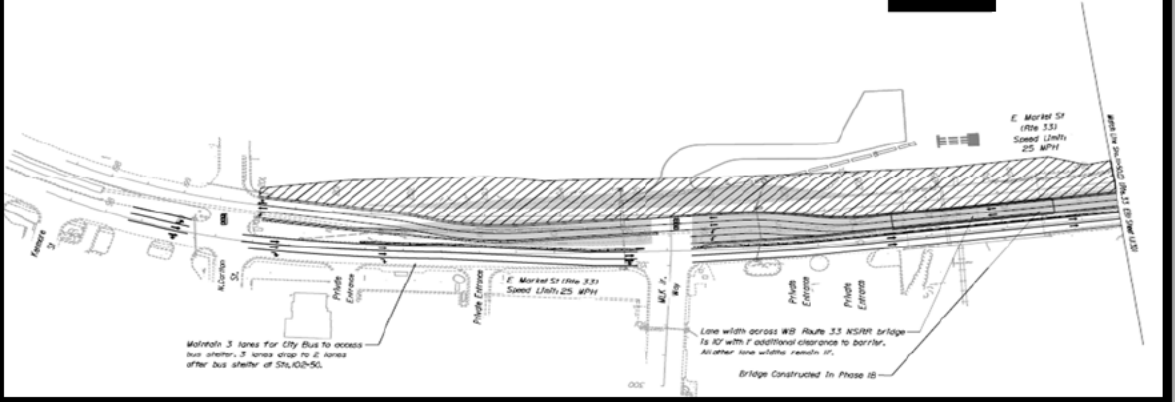
- ① SURFACE 1.5" ASPHALT CONCRETE, TYPE SM-9.5D (ESTIMATED AT 175 LBS/SY)
- ② 1.5" FLEXIBLE PAVEMENT PLANING
- ③ VARIABLE DEPTH ASPHALT CONCRETE, TYPE SM-9.5D (ESTIMATED AT 115 LBS/SY-IN)

Sequence of Construction Phases



PHASE 2

SECTION MARKINGS RELATED TO CONSTRUCTION
IN THE NEAR-FUTURE AND CONTROL OF TRAFFIC
DURING THE PERIOD OF CONSTRUCTION



UPC #: 107453

Project #: 0753-029-509

Project Name: Route 753, Old Country Road

Cost Estimate Package (CEP)

FI Estimate



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**Attachment 5 – Construction (CN)
Quantity Line-Item Breakdown**

Quantity Estimate Summary

Project Id: C000107453C01
UPC: 107453
Project Name: Route 753 - Old Country Road
Location: Fairfax County

Project Milestone: Field Inspection
Estimate Date: 10/15/2021
Prepared By: ABC
Checked By: XYZ

Item Code	Item Description	Units	Estimated Qty
00100	MOBILIZATION	LS	1
00101	CONSTRUCTION SURVEYING	LS	1
00110	CLEARING AND GRUBBING	LS	1
00120	REGULAR EXCAVATION	CY	21370
00140	BORROW EXCAVATION	CY	14659
00180	UTILITY TEST PIT UNPAVED	EA	20
00525	CONCRETE CLASS A3 MISC.	CY	1
00529	FLOWABLE BACKFILL	CY	30
01150	15" PIPE	LF	272
01180	18" PIPE	LF	175
01240	24" PIPE	LF	38
01242	24" CONC. PIPE	LF	1031
06151	15" END SECTION ES-1	EA	1
06241	24" END SECTION ES-1	EA	10
07506	DROP INLET DI-5	EA	2
07508	DROP INLET DI-7	EA	2
08904	DROP INLET DI-12,L=8'	EA	1
09056	MANHOLE MH-1 OR 2	LF	8.1
09057	FRAME & COVER MH-1	EA	1
09148	EROSION CONTROL STONE CLASS A1 EC-1	TON	45
09150	EROSION CONTROL STONE CLASS I, EC-1	TON	58
10011	HYDRAULIC CEMENT	TON	299
10026	MANIPULATION 6"	SY	18987
10128	AGGR. BASE MATL. TY. I NO. 21B	TON	8336
10415	PRIME COAT	GAL	4747
10485	NS COVER MATERIAL FINE AGGREGATE B OR NO. 10 AGGREGATE	TON	95
10607	ASPHALT CONCRETE TY. SM-12.5A	TON	6381
10610	ASPHALT CONCRETE TY. IM-19.0A	TON	5528
10628	FLEXIBLE PAVEMENT PLANING 0" - 2"	SY	37197
10642	ASPHALT CONCRETE TY. BM-25.0A	TON	323
10700	RUMBLE STRIP CYLINDRICAL ASPHALT	LF	10715
11070	NS SAW-CUT ASPH CONC FULL DEPTH	LF	18337
12030	STD. CURB CG-3	LF	257
12032	RADIAL CURB CG-3	LF	208
13212	R/W MONUMENT RM-2	EA	10
13280	GUARDRAIL GR-MGS1	LF	1579
13282	GUARDRAIL GR-MGS1, 9' POST	LF	38
13286	GUARDRAIL TERMINAL GR-MGS2	EA	4
13288	GUARDRAIL HEIGHT TRANSITION GR-MGS4	EA	1
13401	NS GUARDRAIL GUARDRAIL HEIGHT TRANSITION GR-MGS4, 9' POST	EA	1

Item Code	Item Description	Units	Estimated Qty
13496	TRAF. BARR. SER. CONC. DOUBLE FACE PAR.MB. 11A	LF	1601
13604	IMPACT ATTEN. SER. TY. 1 TL-3, >=40 MPH	EA	4
14260	CRUSHER RUN AGGREGATE NO. 25 OR 26	TON	268
23560	TEMP. SAFETY FENCE 4'	LF	1648
24152	TYPE 3 BARRICADE 8'	EA	3
24160	TEMPORARY (CONSTRUCTION) SIGN	SF	770
24262	PORTABLE TEMPORARY RUMBLE STRI ARRAY	DAY	226
24272	TRUCK MOUNTED ATTENUATOR	HR	2842
24278	GROUP 2 CHANNELIZING DEVICES	DAY	25643
24279	PORTABLE CHANGEABLE MESSAGE	HR	3168
24282	FLAGGER SERVICE	HR	5880
24400	OBSCURING ROADWAY	UNIT	13
24430	DEMOLITION OF PAVEMENT FLEXIBLE	SY	5333
24600	REMOVE EXISTING GUARDRAIL	LF	3094
25507	FIELD OFFICE TY.III	MO	14
27012	TOPSOIL CLASS A 2"	ACRE	11.11
27102	REGULAR SEED	LB	2083
27103	OVERSEEDING	LB	1667
27111	HYDRAULIC EROSION CONTROL	SY	50457
27112	HYDRAULIC EROSION CONTROL PRODUCT TYPE 3	SY	16759
27230	FERTILIZER NITROGEN - N	LB	854
27231	FERTILIZER PHOSPHOROUS - P	LB	1042
27232	FERTILIZER POTASSIUM - K	LB	521
27250	LIME	TON	38.89
27318	ROLLED EROSION CTRL PRODUCT EC-2 TYPE1	SY	8220
27320	ROLLED EROSION CTRL PRODUCT EC-2 TYPE 3	SY	438
27327	ROLLED EROSION CTRL PRODUCT EC-3 TYPE3	SY	2
27410	CHECK DAM, ROCK TY. I	EA	9
27415	CHECK DAM ROCK TY. II	EA	209
27430	SILTATION CONTROL EXCAVATION	CY	2147
27451	INLET PROTECTION TYPE A	EA	5
27504	TEMP. SILT FENCE TYPE B	LF	1087
27505	TEMP. SILT FENCE TYPE A	LF	8511
27580	TEMP. SEDIMENT BASIN EXCAVATION	CY	188
50108	SIGN PANEL	SF	231
50320	REMOVE EXISTING 1 POST SIGN	EA	46
50340	RELOCATE EXISTING 1 POST GROUND MOUNTED SIGN PANEL	EA	1
50342	RELOCATE EXISTING 2 POST GROUND MOUNTED SIGN PANEL	EA	1
50430	SIGN POST STP-1, 2", 14 GAUGE	LF	432
50434	SIGN POST STP-1, 2 1/2", 10 GAUGE	LF	16
50436	SIGN POST STP-1, 2 1/2", 12 GAUGE	LF	48
50485	CONCRETE SIGN FOUNDATION STP-1, TYPE A	EA	27
50486	CONCRETE SIGN FOUNDATION STP-1, TYPE B	EA	1
54032	TYPE B CLASS I PVMT LINE MRKG 4"	LF	40385
54042	TYPE B CLASS I PAVE. LINE MARKING 24"	LF	315
54105	ERADICATE EXIST. LINEAR PVMT MARKING	LF	97753
54210	REMOVE EXIST. RAISED PAVEMENT MARKER	EA	240
54219	INLAID PAVEMENT MARKER ASPHALT	EA	139
54240	TEMP. PAVE. MARKER 1 WAY	EA	34

Item Code	Item Description	Units	Estimated Qty
54242	TEMP. PAVE. MARKER 2 WAY	EA	14
54428	TEMP. PVMT MRKG, TY. A, 4"	LF	57328
54432	TEMP. PVMT MRKG, TY. A, 8"	LF	963
54440	TEMP. PVMT MRKG, TY. A, 24"	LF	50
54512	TYPE D, CLASS II TEMP. PVMT MRKG 4"	LF	23482
54524	TYPE D, CLASS II TEMP. PVMT MRKG 24"	LF	50
54574	PVMT SYMB MRKG SGL TURN ARROW TY B, CL I	EA	4
54589	PVMT SYMB MRKG LANE REDUCTION ARROW TY B, CL I	EA	4
70000	NS DEMO. OF BLDG. Parcel 004, D-701	LS	1

UPC #: 107453

Project #: 0753-029-509

Project Name: Route 753, Old Country Road

Cost Estimate Package (CEP)

FI Estimate



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**Attachment 6 – Preliminary Engineering
(PE) Cost Breakdown**

PROJECT INFORMATION	
Enter project description	
Estimate Date	10/12/2021
Estimator Name	
County/City/Town	Fairfax County (29)
Administered by	VDOT
Project Length	6000 LF
Estimated # Sheets	9 Sheets
Project Tier	
# of Connections	
# of Prop. Bridges	Bridges
Survey Length	7000 LF
In-House Rate	90 \$/HR
Survey Rate	140 \$/HR
Consultant Rate	150 \$/HR
Other Remarks	

CONCEPTUAL PE ESTIMATING TOOL		
DISTRICT:	Northern Va	Rev: 8/5/21

	Estimator data
	Calculated data
	Descriptive
	Estimate totals

Note: The accuracy of this tool has been verified with very few projects. The total estimate provided should be checked using another method, such as comparison with similar projects. See the hidden tab "PE Data" for hour sources. Avoid using the "Simple" level for low-hours tasks.

TOTAL CALCULATIONS						GRAND TOTAL		\$1,371,457	
INFLATION	Inflation/Yr	2%	Today	2021	Start PE	2021	Inflation	0.0%	\$0
SUB-TOTAL							\$1,306,149	5%	\$1,371,457
Discipline	Contingency Assumptions/Notes						Subtotal	Cont.	Total
Roadway-							\$466,455	5%	\$489,777
Hydraulics-	Additional design may be needed for existing drainage pipes that may have to be upgraded						\$161,909	5%	\$170,005
In-Plan Utilities-	Additional review cycle anticipated						\$11,983	5%	\$12,582
Traffic-	Additional traffic counts anticipated						\$66,100	5%	\$69,405
Structures/Bridges-							\$0	5%	\$0
Materials/Geotech-	Additional review cycle and revisions to GDR anticipatec						\$51,233	5%	\$53,795
Survey-	Right of way staking in field anticipated						\$289,419	5%	\$303,890
Environmental-	Permit sketch revision anticipated						\$30,000	5%	\$31,500
Right of Way-	Right of way plan revision anticipated						\$55,800	5%	\$58,590
Other-							\$0	5%	\$0
VDOT Oversight-							\$173,250	5%	\$181,913

ROAD DESIGN/PROJECT MANAGEMENT								Subtotal	\$466,455
# of Public Meetings	2								
	Designer	Level	Base Hrs	Hrs/Unit	Unit	Total Hrs	Override Hrs	Unit Price	Total Cost
Road Plans	Consultant	Simple	700	1400	/Mile	2291		\$150	\$343,636
TMP Plans	Consultant	Simple	150	300	/Mile	491		\$150	\$73,636
Project Mgmt	District	Simple	150	300	/Mile	491		\$90	\$44,182
Public Meetings			2	Meetings		\$/Mtg		\$2,500	\$5,000
Miscellaneous Cost									
Remarks									

HYDRAULICS DESIGN								Subtotal	\$161,909
Urban vs. Rural	Urban								
# of Prop. Bridges	0								
# of BMPs	1								
# of Large Culverts	0								
Floodplain Encroach.									
	Designer	Level	Base Hrs	Hrs/Unit	Unit	Total Hrs	Override Hrs	Unit Price	Total Cost
Hydr. Design	Consultant	Simple	100	533	/Mile	706		\$150	\$105,909
E&SC Design	Consultant	Simple	27	27	/Sheet	267		\$150	\$40,000
SWM Design	Consultant	Simple	0	107	/BMP	107		\$150	\$16,000
Bridge H&HA	Consultant	Moderate	0	250	/Bridge	0		\$150	\$0
River Mech.	Consultant	Moderate	225	0	/Proj.	0		\$150	\$0
Nutrient Credits	Estimate Provided By:					Date of Estimate:			
Miscellaneous Cost									

Remarks	Nutrient credits not anticipated
---------	----------------------------------

TRAFFIC CONTROL DEVICE DESIGN									Subtotal	\$66,100
# of Signals	0									
Signals in MOT	0									
	Designer	Level	Base Hrs	Hrs/Unit	Unit	Total Hrs	Override Hrs	Unit Price	Total Cost	
Sign/PM Plans	Consultant	Simple	67	33	/Sheet	367		\$150	\$55,000	
Signal Plans	Consultant	Moderate	95	180	/Signal	0		\$150	\$0	
Lighting Plans	Consultant	None	0	0	/Sheet	0		\$150	\$0	
ITS Plans	Consultant	None	0	0	/Sheet	0		\$150	\$0	
Miscellaneous Cost										
Remarks										

TRAFFIC STUDIES									Subtotal	\$11,100
# of Intersections	1	intx								
# of Interchanges		intx								
Study Complete?	No									
Interchange Report?										
	Designer	Level	Base Hrs	Hrs/Unit	Unit	Total Hrs	Override Hrs	Unit Price	Total Cost	
Update Traffic Study	Consultant	Moderate	25	12	/Intx	0		\$150	\$0	
IJR/IMR	Consultant	Moderate	0	400	/Intx	0		\$150	\$0	
Full Traffic Study	Consultant	Moderate	50	24	/Intx	74		\$150	\$11,100	
Miscellaneous Cost										
Remarks										

SURVEY									Subtotal	\$289,419
# Utilities	4	Lines								
LF Utility in Limits	24000	LF								
LF Utility Survey	32000	LF								
# of Test Holes	30	Holes								
	Designer	Level	Base Hrs	Hrs/Unit	Unit	Total Hrs	Override Hrs	Unit Price	Total Cost	
Base Survey	Estimate Provided By:					Date of Estimate:			\$170,000	
Subsurface Utility	Consultant	Simple	0	43	/Mile	263		\$140	\$36,768	
RW Sheets	Consultant	Simple	17	333	/Mile	395		\$150	\$59,318	
Test Holes	Consultant	Simple	7	5	/Hole	167		\$140	\$23,333	
Miscellaneous Cost										
Remarks										

ENVIRONMENTAL									Subtotal	\$30,000
	Designer	Level	Base Hrs	Hrs/Unit	Unit	Total Hrs	Override Hrs	Unit Price	Total Cost	
Environmental Costs	Estimate Provided By:					Date of Estimate:			\$30,000	
Miscellaneous Cost										
Remarks										

STRUCTURAL DESIGN									Subtotal	\$0
# of Prop. Bridges	0	Bridges								
Length of Ret. Wall		ft								
Length of Noise Wall		ft								
	Designer	Level	Base Hrs	Hrs/Unit	Unit	Total Hrs	Override Hrs	Unit Price	Total Cost	
Structural Design	Estimate Provided By:					Date of Estimate:			\$0	
Noise Walls	Consultant	Moderate	60	300	/Sheet	0		\$150	\$0	
Retaining Walls	Consultant	Moderate	60	300	/Sheet	0		\$150	\$0	
Miscellaneous Cost										
Remarks										

MATERIALS/GEOTECHNICAL DESIGN									Subtotal	\$51,233
Length of Walls	0	ft								
Cuts/Fills > 25'?										
# of Large Culverts	0	Culverts								
# of BMPs	1	Ponds								
# of Prop. Bridges	0	Bridges								

# of Soil Borings	35	Borings								
	Designer	Level	Base Hrs	Hrs/Unit	Unit	Total Hrs	Override Hrs	Unit Price	Total Cost	
Materials Engineer	Consultant	Simple	40	10	/Sheet	130		\$150	\$19,500	
Soils Investigation	Consultant	Simple	40	5	/Boring	227		\$140	\$31,733	
Miscellaneous Cost										
Remarks										

UTILITY DESIGN									Subtotal	\$11,983
# of In-Plan Utilities	1	utilities								
Default Length	6000	ft/utilty								
Override Length	700	ft/utilty								
	Designer	Level	Base Hrs	Hrs/Unit	Unit	Total Hrs	Override Hrs	Unit Price	Total Cost	
Utility Design	Consultant	Moderate	60	150	/Mile	80		\$150	\$11,983	
Miscellaneous Cost										
Remarks										

LANDSCAPE DESIGN									Subtotal	\$0
	Designer	Level	Base Hrs	Hrs/Unit	Unit	Total Hrs	Override Hrs	Unit Price	Total Cost	
Landscape Design	Consultant	None	0	0	/Mile	0		\$150	\$0	
Miscellaneous Cost										
Remarks										

REVIEWS/COORDINATION/VDOT OVERSIGHT COSTS									Subtotal	\$173,250
Roundabout?										
Railroad Impact?										
	Reviewer	Level	Base Hrs	Hrs/Unit	Unit	Total Hrs	Override Hrs	Unit Price	Total Cost	
Right of Way	District	Moderate	80	60	/Sheet	620		\$90	\$55,800	
Utility Coordination	District	Moderate	80	60	/Sheet	620		\$90	\$55,800	
Railroad Review	Consultant	Moderate	100	30	/Sheet	0		\$150	\$0	
Traffic Eng. Review	District	Moderate	60	15	/Sheet	195		\$90	\$17,550	
Construction	District	Moderate	60	15	/Sheet	195		\$90	\$17,550	
C.O. Review	Central Office	Moderate	60	15	/Sheet	0		\$90	\$0	
Roundabout Comm.	Central Office	Moderate	80	0	/Rnd'bt	0		\$90	\$0	
Programming	District	Moderate	100	0	/Sheet	100		\$90	\$9,000	
V.E. Study	District	Moderate	240	0	/Proj	0		\$90	\$0	
L&D Rev./Approval	District	Moderate	60	15	/Sheet	195		\$90	\$17,550	
Miscellaneous Cost										
Remarks										

MISCELLANEOUS ITEMS									Subtotal	\$0
Item #1										
Item #2										
Item #3										
Item #4										
Item #5										
Remarks										

UPC #: 107453

Project #: 0753-029-509

Project Name: Route 753, Old Country Road

Cost Estimate Package (CEP)

FI Estimate



Attachment 7 – Right of Way (RW) Cost Breakdown



Project Cost Estimating System RIGHT-OF-WAY ESTIMATE



Project No.: **0753-029-053**

VDOT Construction District : **NORTHERN VIRGINIA**

9

Select Project Area Real Estate Costs : **Average**

Define Project Land Use Characteristics :

Agricultural :	
Residential :	100%
Industrial :	
Commercial :	0%
	100%

Instructions: Please fill-in all applicable White Boxes or make a choice from the Drop-down Lists

Enter the Approximate Number of Parcels on the Project : **7**

1. LAND VALUE

Prop. Right-of-Way

Total Right-of-Way Project Length (ML + Connections)	8,000	ft		Computed RW Cost per sq ft = \$1.26
Average width of Existing RW	90	ft	Enter Right-of-Way Estimator's Right-of-Way Cost	
Average width of Proposed RW	110	ft	per sq ft :	
Total area of all additional Prop. Right-of-Way	3,000	sf	Enter total sq ft (override calculation):	
			163,000 sq ft = 3.742 Ac.	
Approx. % of Prop. CL within	10	ft	of Exist. CL	100%
Approx. % of Prop. CL between	10	ft	& 100 ft of Exist. CL	0%
Approx. % of Prop. CL greater than	100	ft	from Exist. CL	0%

Temp. Ease.

Average Width of parallel Temporary Easements Left	10	ft		Comp. Temp. Ease. Cost / sq ft = \$0.31
Total Length of parallel Temporary Easements Left	5,000	ft	Enter Right-of-Way Estimator's Temp. Ease. Cost	
Average Width of parallel Temporary Easements Right	10	ft	per sq ft :	
Total Length of parallel Temporary Easements Right	5,000	ft	Enter total sq ft (override calculation):	
			100,000 sq ft = 2.296 Ac.	

Perm. & Util. Ease.

Total Area of All Replacement Utility Easements AND Select % of RW Cost for Util. Ease.	25%			Comp. Utility Ease. Cost / sq ft = \$0.31
		sf	RW Est's. Utility Ease. Cost per sq ft :	
This Box Must Be Empty >		ea	0 sq ft = 0.000 Ac.	
			Comp. Perm. Ease. Cost / sq ft = \$1.01	
Total area of All Permanent Easements	8,000	sf	RW Est's. Perm. Ease. Cost per sq ft :	
			8,000 sq ft = 0.184 Ac.	

COST OF LAND (Item # 1) \$244,372

2. BUILDING VALUE

Based upon comparison to similar, occupied Residential Dwellings in the Project Area, enter the Number of:			Computed:
A. Low Cost Residential Dwellings :			\$0
B. Moderately Low Cost Dwellings :			\$0
C. Average Cost Residential Dwellings :			\$0
D. Moderately High Cost Dwellings :			\$0
E. High Cost Residential Dwellings :			\$0
Computed Total Residential Dwelling Costs :			\$0
Estimator's Total Residential Dwelling Costs :			

Enter the total estimated cost of ALL **COMMERCIAL & INDUSTRIAL BUILDINGS** to be taken:
Note: No Computed Costs Available. Use User Defined Costs Below:
Estimator's Total Commercial / Industrial Buildings Costs :

3. OTHER IMPROVEMENTS

Enter the estimated cost of ALL **OTHER IMPROVEMENTS** on the Project:
Computed Total Other Improvements Costs : **\$24,437**
Estimator's Total Other Improvements Costs :

4. DAMAGES

Anticipated % of Parcels Affected by Damages to Remainder :	
Anticipated Relative Cost Impact of Damages to Remainder :	Moderately High
Approximate Number of Parcels Affected :	0
Computed Cost of Damages to Remainder :	\$0
Estimator's Total Cost of Damages to Remainder :	

TOTAL ACQUISITIONS (Items # 1 - 4) \$268,809

5. ADMINISTRATIVE SETTLEMENTS

Anticipated % of Parcels Affected by Administrative Settlements :	20%
Anticipated Relative Cost Impact of Administrative Settlements :	Moderate
Approximate Number of Parcels Affected :	2
Computed Cost of Administrative Settlements :	\$62,580
Estimator's Total Cost of Administrative Settlements :	

6. CONDEMNATION INCREASES

Anticipated % of Parcels Affected by Condemnation Increases :	5%
Anticipated Relative Cost Impact of Condemnation Increases :	Low
Approximate Number of Parcels Affected :	1
Computed Cost of Condemnation Increases :	\$4,694
Estimator's Total Cost of Condemnation Increases :	

7. ADMINISTRATIVE COSTS & INCIDENTAL EXPENSES

Anticipated Relative Cost Impact of Admin. Costs & Incidental Expenses :	Moderate
Computed Administrative Costs & Incidental Expenses :	\$25,190
Estimator's Total Administrative Costs & Incidental Expenses :	

8. DEMOLITION CONTRACTS

Anticipated Relative Cost Impact of Demolition Contracts :	
Computed Costs of Demolition Contracts :	\$0
Estimator's Total Cost of Demolition Contracts :	

9. HAZARDOUS MATERIALS REMOVAL

Anticipated Number of Demolished Buildings Requiring Asbestos Removal :	
Anticipated Relative Cost of Asbestos Removal from Demolished Buildings :	
Anticipated Number of Other Hazardous Materials Removal Sites :	
Anticipated Relative Cost Impact of Other Hazardous Materials Removal :	
Computed Cost of Hazardous Materials Removal :	\$0
Estimator's Total Costs of Hazardous Materials Removal :	

10. PROPERTY MANAGEMENT

Anticipated Relative Cost Impact of Property Management :	
Computed Costs of Property Management :	\$0
Estimator's Total Cost of Property Management :	

TOTAL OTHER ITEMS (Items # 5 - 10)	\$92,463
---	-----------------

11. RELOCATION ASSISTANCE

Residential Relocation Costs:	
Anticipated Relative Cost Impact of Residential Relocation Expenses :	
Computed Residential Relocation Costs :	\$0
Estimator's Total Residential Relocation Costs :	

Commercial Relocation Costs:	
<i>Note: No Computed Costs Available. Use User Defined Costs Below:</i>	
Estimator's Total Comm/Indust Relocation Costs :	

Total Displacements:	<input type="text"/>	Farms:	<input type="text"/>
Families:	<input type="text"/>	Non-Profit:	<input type="text"/>
Businesses:	<input type="text"/>	Personal Property Only:	<input type="text"/>

TOTAL RELOCATION ASSISTANCE (Item # 11)	\$0
--	------------

12. YEAR OF RIGHT-OF-WAY AUTHORIZATION	FY2021	FY2021
---	---------------	---------------

13. MANUAL INFLATION RATE	
----------------------------------	--

		<i>Today's Cost</i>	<i>Factor</i>	<i>Inflated Cost</i>
SUB-TOTAL RIGHT-OF-WAY COSTS		\$361,272	5.37%	\$380,673
UTILITY COSTS TO RIGHT-OF-WAY PROJECT *	<i>(PCES)</i>	\$305,368	11.35%	\$340,039
TOTAL RIGHT-OF-WAY COSTS	<i>(PCES)</i>	\$666,640		\$720,712

* Utility Data display requires completion of Utilities Estimate Worksheet (tab below)

COMMENTS:

Sub-Total Right of Way costs include VDOT RW Oversight costs (\$25,190)

RW-238 Data :

Right-of-Way Estimate Date : **10/21/21**

Based on Approved / Unapproved Plans ? : **Unapproved Plans**

Participating Cost / Non-Participating Cost ? : **Participating Cost**

Today's Date : **10/29/21**

UPC #: 107453

Project #: 0753-029-509

Project Name: Route 753, Old Country Road

Cost Estimate Package (CEP)

FI Estimate



8

**Attachment 8 – Utilities (UT) Cost
Breakdown**

**Project Cost Estimating System
UTILITIES ESTIMATE**

Project No.: **** MISSING DATA ****

A. ELECTRICAL

Transmission

	Computed or User	RW or Const	Type of Pole	No Entry Required	Number of Poles	Rural or Urban	Percent VDOT	Total Cost	to RW Project	to Const Project
A	Computed	RW	Wood		3	Urban	100%	\$273,777	\$273,777	\$0
B	Computed	RW				Rural	100%	\$0	\$0	\$0
C	Computed	RW				Rural	100%	\$0	\$0	\$0
D	Computed	RW				Rural	100%	\$0	\$0	\$0
								\$273,777	\$273,777	\$0

Distribution - Aerial

	Computed or User	RW or Const	Type of Pole	No Entry Required	Number of Poles	Rural or Urban	Percent VDOT	Total Cost	to RW Project	to Const Project
E	Computed	RW				Urban	100%	\$0	\$0	\$0
F	Computed	RW				Rural	100%	\$0	\$0	\$0
G	Computed	RW				Rural	100%	\$0	\$0	\$0
H	Computed	RW				Rural	100%	\$0	\$0	\$0
I	Computed	RW				Rural	100%	\$0	\$0	\$0
J	Computed	RW				Rural	100%	\$0	\$0	\$0
								\$0	\$0	\$0

Distribution - Underground - by Linear Foot

	Computed or User	RW or Const	Type of Service	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project	
K	Computed	RW				100%	\$0	\$0	\$0	
L	Computed	RW				100%	\$0	\$0	\$0	
M	Computed	RW				100%	\$0	\$0	\$0	
N	Computed	RW				100%	\$0	\$0	\$0	
								\$0	\$0	\$0

Distribution - Underground - by Pole Equivalent

	Computed or User	RW or Const	Equivalent Type of Pole	No Entry Required	Equiv. # of Poles	Percent VDOT	Total Cost	to RW Project	to Const Project	
O	Computed	RW				100%	\$0	\$0	\$0	
P	Computed	RW				100%	\$0	\$0	\$0	
Q	Computed	RW				100%	\$0	\$0	\$0	
R	Computed	RW				100%	\$0	\$0	\$0	
								\$0	\$0	\$0

Distribution - Conduit for Underground Electrical

	Computed or User	RW or Const	Type of Service	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project	
S	Computed	RW				100%	\$0	\$0	\$0	
T	Computed	RW				100%	\$0	\$0	\$0	
								\$0	\$0	\$0

Distribution - Underground - Manholes

	Computed or User	RW or Const	Size / Price Range of Manhole	No Entry Required	Number of MH's	Percent VDOT	Total Cost	to RW Project	to Const Project	
U	Computed	RW				100%	\$0	\$0	\$0	
V	Computed	RW				100%	\$0	\$0	\$0	
W	Computed	RW				100%	\$0	\$0	\$0	
X	Computed	RW				100%	\$0	\$0	\$0	
								\$0	\$0	\$0

Misc. Electrical Costs

Y Misc. Electrical Costs Charged to RW Project:

Z Misc. Electrical Costs Charged to Const. Project:

TOTAL ELECTRICAL	Total to RW Proj	Total to Const Proj
\$273,777	\$273,777	\$0

B. TELEPHONE

Aerial - Copper Wire

	Computed or User	RW or Const	Type of Cable (Pair Cable)	No Entry Required	Number of Poles	Percent VDOT	Total Cost	to RW Project	to Const Project
A	Computed	RW				100%	\$0	\$0	\$0
B	Computed	RW				100%	\$0	\$0	\$0
C	Computed	RW				100%	\$0	\$0	\$0
D	Computed	RW				100%	\$0	\$0	\$0
							\$0	\$0	\$0

Aerial - Fiber Optic

	Computed or User	RW or Const	Type of Cable (Optical Fiber)	No Entry Required	Number of Poles	Percent VDOT	Total Cost	to RW Project	to Const Project
E	Computed	RW				100%	\$0	\$0	\$0
F	Computed	RW				100%	\$0	\$0	\$0
G	Computed	RW				100%	\$0	\$0	\$0
H	Computed	RW				100%	\$0	\$0	\$0
							\$0	\$0	\$0

Underground - Copper Wire

	Computed or User	RW or Const	Type of Cable (Pair Cable)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
I	Computed	RW				100%	\$0	\$0	\$0
J	Computed	RW				100%	\$0	\$0	\$0
K	Computed	RW				100%	\$0	\$0	\$0
L	Computed	RW				100%	\$0	\$0	\$0
							\$0	\$0	\$0

Underground - Fiber Optic

	Computed or User	RW or Const	Type of Cable (Optical Fiber)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
M	Computed	RW	32		500	100%	\$16,148	\$16,148	\$0
N	Computed	RW				100%	\$0	\$0	\$0
O	Computed	RW				100%	\$0	\$0	\$0
P	Computed	RW				100%	\$0	\$0	\$0
							\$16,148	\$16,148	\$0

Underground - Copper Wire - In Conduit

	Computed or User	RW or Const	Type of Cable (Pair Cable)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
Q	Computed	RW				100%	\$0	\$0	\$0
R	Computed	RW				100%	\$0	\$0	\$0
S	Computed	RW				100%	\$0	\$0	\$0
T	Computed	RW				100%	\$0	\$0	\$0
							\$0	\$0	\$0

Underground - Fiber Optic - In Conduit

	Computed or User	RW or Const	Type of Cable (Optical Fiber)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
U	Computed	RW				100%	\$0	\$0	\$0
V	Computed	RW				100%	\$0	\$0	\$0
W	Computed	RW				100%	\$0	\$0	\$0
X	Computed	RW				100%	\$0	\$0	\$0
							\$0	\$0	\$0

Manholes for UG Telephone Service

	Computed or User	RW or Const	Item	No Entry Required	Quantity	Percent VDOT	Total Cost	to RW Project	to Const Project
Y	Computed	RW	Telephone Manhole			100%	\$0	\$0	\$0
Z	Computed	RW	Telephone Manhole			100%	\$0	\$0	\$0

Misc. Telephone Costs

AA Misc. Telephone Costs Charged to RW Project:

BB Misc. Telephone Costs Charged to Const. Project:

TOTAL TELEPHONE	Total to RW Proj	Total to Const Proj
\$16,148	\$16,148	\$0

C. CATV

Aerial CATV

	Computed or User	RW or Const	Type of Service	No Entry Required	Number of Pole Att'mnts	Percent VDOT	Total Cost	to RW Project	to Const Project
A	Computed	RW				100%	\$0	\$0	\$0
B	Computed	RW				100%	\$0	\$0	\$0
C	Computed	RW				100%	\$0	\$0	\$0
D	Computed	RW				100%	\$0	\$0	\$0
							\$0	\$0	\$0

Underground CATV

	Computed or User	RW or Const	Type of Service	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
E	Computed	RW	12 Fiber		500	100%	\$15,443	\$15,443	\$0
F	Computed	RW				100%	\$0	\$0	\$0
G	Computed	RW				100%	\$0	\$0	\$0
H	Computed	RW				100%	\$0	\$0	\$0
							\$15,443	\$15,443	\$0

Power Units

	Computed or User	RW or Const	Item	No Entry Required	Quantity	Percent VDOT	Total Cost	to RW Project	to Const Project
I	Computed	RW	CATV Power Supply			100%	\$0	\$0	\$0
J	Computed	RW	CATV Power Supply			100%	\$0	\$0	\$0

Misc. CATV Costs

Misc. CATV Costs Charged to RW Project:

Misc. CATV Costs Charged to Const. Project:

TOTAL CATV	Total to RW Proj	Total to Const Proj
\$15,443	\$15,443	\$0

D. WATER

Water Line

	Computed or User	RW or Const	Diameter of Water Pipe (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
A	Computed	Const				100%	\$0	\$0	\$0
B	Computed	Const				100%	\$0	\$0	\$0
C	Computed	Const				100%	\$0	\$0	\$0
D	Computed	Const				100%	\$0	\$0	\$0
							\$0	\$0	\$0

Misc. Water Costs

E Misc. Water Costs Charged to Const. Project:

F Misc. Water Costs Charged to RW Project:

TOTAL WATER	Total to RW Proj	Total to Const Proj
\$0	\$0	\$0

E. SANITARY SEWER

Sewer Line

	Computed or User	RW or Const	Diameter of Sewer Pipe (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
A	Computed	Const				100%	\$0	\$0	\$0
B	Computed	Const				100%	\$0	\$0	\$0
C	Computed	Const				100%	\$0	\$0	\$0
D	Computed	Const				100%	\$0	\$0	\$0
							\$0	\$0	\$0

Misc. Sewer Costs

E Misc. Sewer Costs Charged to Const. Project:

F Misc. Sewer Costs Charged to RW Project:

TOTAL SEWER	Total to RW Proj	Total to Const Proj
\$0	\$0	\$0

F. NATURAL GAS / PROPANE

Distribution

	Computed or User	RW or Const	Diameter of Gas Line (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
A	Computed	RW				100%	\$0	\$0	\$0
B	Computed	RW				100%	\$0	\$0	\$0
C	Computed	RW				100%	\$0	\$0	\$0
D	Computed	RW				100%	\$0	\$0	\$0
							\$0	\$0	\$0

Transmission

	Computed or User	RW or Const	Diameter of Gas Line (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
E	Computed	RW				100%	\$0	\$0	\$0
F	Computed	RW				100%	\$0	\$0	\$0
G	Computed	RW				100%	\$0	\$0	\$0
H	Computed	RW				100%	\$0	\$0	\$0
							\$0	\$0	\$0

Misc. Natural Gas / Propane Costs

I	Misc. Gas / Pro Costs Charged to RW Project:	<input type="text"/>		
J	Misc. Gas / Pro Costs Charged to Const. Project:	<input type="text"/>		

TOTAL GAS / PROPANE	Total to RW Proj	Total to Const Proj
\$0	\$0	\$0

G. PETROLEUM

Transmission

	Computed or User	RW or Const	Diameter of Gas Line (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
A	Computed	RW				100%	\$0	\$0	\$0
B	Computed	RW				100%	\$0	\$0	\$0
C	Computed	RW				100%	\$0	\$0	\$0
D	Computed	RW				100%	\$0	\$0	\$0
							\$0	\$0	\$0

Misc. Petroleum Costs

E	Misc. Petroleum Costs Charged to RW Project:	<input type="text"/>		
F	Misc. Petroleum Costs Charged to Const. Project:	<input type="text"/>		

TOTAL PETROLEUM	Total to RW Proj	Total to Const Proj
\$0	\$0	\$0

H. CELLULAR

Cellular Telephone Costs

A	Total Cellular Costs Charged to RW Project:	<input type="text"/>		
B	Total Cellular Costs Charged to Const. Project:	<input type="text"/>		

TOTAL CELLULAR	Total to RW Proj	Total to Const Proj
\$0	\$0	\$0

I. ADDITIONAL COSTS

	Additional Utility Costs to <u>Right-of-Way Project</u> :	<input type="text"/>	
Comments:	<input type="text"/>		
	Additional Utility Costs to <u>Construction Project</u> :	<input type="text"/>	\$10,000
Comments:	Utility testpits		
	Additional Utility Costs to <u>Utility Owners/Others</u> :	<input type="text"/>	
Comments:	<input type="text"/>		

TOTAL UTILITY COST - <u>RIGHT-OF-WAY PROJECT</u>	\$305,368
TOTAL UTILITY COST - <u>CONSTRUCTION PROJECT</u>	\$10,000
TOTAL UTILITY COST - <u>UTILITY OWNER / OTHERS</u>	\$0
GRAND TOTAL UTILITY COSTS (PCES)	\$315,368

UPC #: 107453

Project #: 0753-029-509

Project Name: Route 753, Old Country Road

Cost Estimate Package (CEP)

FI Estimate



Attachment 9 – Risk Registry

Risk Register

Project Name: Route 753, Old Country Road
UPC: 107453

Project Milestone: Field Inspection
Date: 10/15/2021

Risk Identification			Risk Assessment					Risk Percentage
ID #	Category	Risk Statement	Probability	Cost Impact	Cost Score	Time Impact	Time Score	
MOT Risks								
1	MOT	Disruptions to business/ residential access	2-Medium	2-Medium	4	2-Medium	4	25%
2	MOT	Construction activity limited at night due to lane closure restrictions	2-Medium	1-Low	2	1-Low	2	
3	MOT	Drainage issues during construction requiring changes to MOT design	3-High	3-High	9	3-High	9	
4	MOT	Unhappy business owners due to unclear signage	3-High	1-Low	3	1-Low	3	
5	MOT	Request for individual business signs	2-Medium	2-Medium	4	1-Low	2	
6	MOT	Insufficient working area within permitted construction area	2-Medium	1-Low	2	2-Medium	4	
7	MOT	Contractor cannot find adequate staging area	1-Low	1-Low	1	2-Medium	2	
8	MOT	Higher than anticipated traffic incidents during construction requiring additional measures	1-Low	2-Medium	2	2-Medium	2	
Roadway Design Risks								
1	RDWY	Incomplete quantity estimates	3-High	2-Medium	6	1-Low	3	20%
2	RDWY	Insufficient design analysis	2-Medium	1-Low	2	1-Low	2	
3	RDWY	Surveys incomplete	2-Medium	1-Low	2	1-Low	2	
4	RDWY	Inaccurate assumptions during the planning phase	1-Low	1-Low	1	2-Medium	2	
5	RDWY	Design changes/betterment requests from localities and stakeholders	1-Low	1-Low	1	2-Medium	2	
6	RDWY	Changes to design standards	1-Low	1-Low	1	2-Medium	2	
Hydraulics								
1	HYD	Additional Sediment removal required for BMP	2-Medium	2-Medium	4	2-Medium	4	25%
2	HYD	Tying into existing structures different than anticipated	2-Medium	2-Medium	4	2-Medium	4	
3	HYD	Jack and bore hits obstruction	2-Medium	3-High	6	2-Medium	4	
4	HYD	Overrun of E&S quantities	2-Medium	1-Low	2	1-Low	2	
5	HYD	Insufficient hydraulic analysis	2-Medium	1-Low	2	1-Low	2	
6	HYD	Additional drainage runs to be upgraded	1-Low	1-Low	1	1-Low	1	
7	HYD	Existing drainage structures in poor condition	2-Medium	2-Medium	4	1-Low	2	
Traffic								
1	TRF	Overrun of quantities for pavement marking	1-Low	1-Low	1	1-Low	1	15%
2	TRF	Risk of not being able to install pavement markings due to weather restrictions	1-Low	1-Low	1	1-Low	1	
3	TRF	redesign due to emergency vehicle response requests	1-Low	1-Low	1	1-Low	1	
4	TRF	Difficulties with installation of sign foundations	2-Medium	2-Medium	4	1-Low	2	
Earthwork/ Geotechnical								
1	GEO	Geotechnical exploration not complete	2-Medium	2-Medium	4	2-Medium	4	25%
2	GEO	Overrun of Undercut quantities	2-Medium	2-Medium	4	2-Medium	4	
3	GEO	need for additional rock excavation	1-Low	1-Low	1	1-Low	1	
Utilities								
1	UT	Failure of private utility company to submit their entire infrastructure in their design	1-Low	2-Medium	2	3-High	3	30%
2	UT	Abandoned utilities encountered during construction	1-Low	2-Medium	2	2-Medium	2	
3	UT	Failure to address utility conflicts in a timely manner	2-Medium	3-High	6	3-High	6	
4	UT	Late design changes that create utility conflict	2-Medium	2-Medium	4	2-Medium	4	
5	UT	Relocated utility conflicts with storm drainage plan	1-Low	3-High	3	2-Medium	2	
6	UT	Strict requirements for protection of existing utility poles	2-Medium	2-Medium	4	2-Medium	4	
7	UT	Unidentified utility impacts	2-Medium	3-High	6	2-Medium	4	

Risk Identification			Risk Assessment					Risk Percentage
ID #	Category	Risk Statement	Probability	Cost Impact	Cost Score	Time Impact	Time Score	
Environmental								
1	ENV	Contaminated soil and water encountered in unidentified area	3-High	2-Medium	6	2-Medium	6	25%
2	ENV	Hazardous material spill on project	1-Low	2-Medium	2	1-Low	1	
3	ENV	Unauthorized discharge on the project	2-Medium	1-Low	2	1-Low	2	
4	ENV	Unclear delineation of permitted work areas	2-Medium	1-Low	2	1-Low	2	
5	ENV	Unexpected archeological findings	2-Medium	1-Low	2	1-Low	2	
6	ENV	Unforeseen Section 4(f) resources affected	2-Medium	1-Low	2	1-Low	2	
7	ENV	Unanticipated noise impacts	2-Medium	1-Low	2	1-Low	2	
8	ENV	Environmental clearance for borrow site required	2-Medium	1-Low	2	1-Low	2	
9	ENV	Unforeseen air quality issues	2-Medium	1-Low	2	1-Low	2	
Right of way								
1	RW	Unanticipated escalation in ROW values	2-Medium	1-Low	2	1-Low	2	30%
2	RW	Additional ROW may be needed	1-Low	1-Low	1	2-Medium	2	
3	RW	Acquisition of ROW may take longer than anticipated	2-Medium	1-Low	2	2-Medium	4	
4	RW	Discovery of hazardous waste during the ROW phase	1-Low	1-Low	1	2-Medium	2	
5	RW	Counter offers, negotiations and condemnation costs	2-Medium	2-Medium	4	2-Medium	4	

UPC #: 107453

Project #: 0753-029-509

Project Name: Route 753, Old Country Road

Cost Estimate Package (CEP)

FI Estimate



10

**Attachment 10 –AASHTOWare Pre-
Construction Line-Item Unit Cost Breakdown**

10/15/21



**Virginia Department of Transportation
Preliminary Prime Project Detail Estimate**

Date Printed: 10/15/21

Prime Project ID: C000107453C01

UPC: 107453

Spec Book: 16

Prime Project Description: Widening of Old Country Road from Beach Road to Valley Road

Oversight/State Project Number: (NFO) 00753-029-509

Federal Project Number: STP- -29-6(045)

Date of Last Generated BBP: 09/15/21

Longitude: 76:57:52.00

Latitude: 38:10:38.46

From/To: FROM: BEACH ROAD
TO: VALLEY ROAD

Urban/Rural: U

Road System: ARTERIAL

District: NORTHERN VIRGINIA

SAMPLE
Project Detail Estimate

10/15/21



Virginia Department of Transportation

SAMPLE
Project Detail Estimate

Date Printed: 10/15/21

Preliminary Detail Estimate Summary Sheet

Page 1 of 1

Prime Project ID: C000107453C01

Oversight/State Project Number: (NFO) 00753-029-509

UPC: 107453

Federal Project Number: STP -29-6(045)

Project Description: Widening of Old Country Road from Beach Rd to Valley Rd

Latitude: 38:10:38.46

Longitude: 76:57:52.00

Urban/Rural: U

Road System: ARTERIAL

Location: FROM: BEACH ROAD
TO: VALLEY ROAD

Total Project of Length: MILES ==> 1.5000

Designed By: VDOT

Length Excluding Bridges: MILES ==> 1.5000

Date of Estimate: 09/15/21

District: NORTHERN VIRGINIA

City/Counties: 029 FAIRFAX

Project ID (PCN)	Route	City / Co	Section	Type	Project Total	Construction Engineering	Contingencies	Other Non-Bid	Grand Total
C000107453C01	753	096	029	C501	6,968,751.08	1,254,375.19	1,903,914.92	468,125.07	\$ 10,595,166.26



Virginia Department of Transportation

SAMPLE
Project Detail Estimate

Date Printed: 10/15/21

Preliminary Detail Cost Estimate

Page 1 of 8

Prime Project ID: C000107453C01

Project ID: 000107453C01

UPC: 107453

FHWA 534: 14003

Project Description: Widening of Old Country Road from Beach Rd to Valley Rd

Category: 0100

Regular Bid Items

Federal Structure ID:

Road Segment Length:

Road Segment Width:

Bridge Plan No.:

Num of Spans:

Bridge Length:

Bridge Width:

FHWA Type Code: 03

03-4R - RECONSTRUCTION-ADDED CAPACITY

Activity Code: 631

631-CONTRACT CONSTR - REGULAR - FED

Fed Construction Class:

Line No.	Item Code	Spec Number	Item Description	Alt Set ID	Alt Mem ID	Units	Estimated Qty	Unit Price	Amount	Fund Package ID	Flags*
0010	00100	513	MOBILIZATION			LS	1.000	360,500.00000	360,500.00	80/20	L B
0020	00101	517	CONSTRUCTION SURVEYING CONSTRUCTION			LS	1.000	65,500.00000	65,500.00	80/20	L B
0030	00110	301	CLEARING AND GRUBBING			LS	1.000	106,000.00000	106,000.00	80/20	L B
0040	00120	303	REGULAR EXCAVATION			CY	21,370.000	53.39000	1,140,944.30	80/20	L
0050	00140	305	BORROW EXCAVATION			CY	14,659.000	44.21000	648,074.39	80/20	L
0060	00180	ATTD	UTILITY TEST PIT UNPAVED			EA	20.000	476.43000	9,528.60	80/20	L
0070	00525	302 504	CONCRETE CLASS A3 MISC.			CY	1.000	3,501.92000	3,501.92	80/20	L
0080	00529	509	FLOWABLE BACKFILL			CY	30.000	382.41000	11,472.30	80/20	L
0090	01150	302	15" PIPE			LF	272.000	111.20000	30,246.40	80/20	L
0100	01180	302	18" PIPE			LF	175.000	85.54000	14,969.50	80/20	L
0110	01240	302	24" PIPE			LF	38.000	119.11000	4,526.18	80/20	L
0120	01242	302	24" CONC. PIPE			LF	1,031.000	149.15000	153,773.65	80/20	L
0130	06151	302	15" END SECTION ES-1			EA	1.000	939.76000	939.76	80/20	L
0140	06241	302	24" END SECTION ES-1			EA	10.000	1,384.16000	13,841.60	80/20	L
0150	07506	302	DROP INLET DI-5			EA	2.000	4,688.13000	9,376.26	80/20	L



Virginia Department of Transportation



Date Printed: 10/15/21

Preliminary Detail Cost Estimate

Page 2 of 8

Prime Project ID: C000107453C01

Project ID: 000107453C01

UPC: 107453

FHWA 534: 14003

Project Description: Widening of Old Country Road from Beach Rd to Valley Rd

Category: 0100 Regular Bid Items

Federal Structure ID:

Road Segment Length:

Road Segment Width:

Bridge Plan No.:

Num of Spans:

Bridge Length:

Bridge Width:

FHWA Type Code: 03

03-4R - RECONSTRUCTION-ADDED CAPACITY

Activity Code: 631

631-CONTRACT CONSTR - REGULAR - FED

Fed Construction Class:

Line No.	Item Code	Spec Number	Item Description	Alt Set ID	Alt Mem ID	Units	Estimated Qty	Unit Price	Amount	Fund Package ID	Flags*
0160	07508	302	DROP INLET DI-7			EA	2.000	5,744.99000	11,489.98	80/20	L
0170	08904	302	DROP INLET DI-12,L=8'			EA	1.000	7,500.00000	7,500.00	80/20	L
0180	09056	302	MANHOLE MH-1 OR 2			LF	8.100	736.82000	5,968.24	80/20	L
0190	09057	302	FRAME & COVER MH-1			EA	1.000	724.78000	724.78	80/20	L
0200	09148	414	EROSION CONTROL STONE CLASS A1 EC-1			TON	45.000	101.83000	4,582.35	80/20	L
0210	09150	414	EROSION CONTROL STONE CLASS I, EC-1			TON	58.000	143.51000	8,323.58	80/20	L
0220	10011	307	HYDRAULIC CEMENT			TON	299.000	185.92000	55,590.08	80/20	L
0230	10026	306	MANIPULATION 6"			SY	18,987.000	10.00000	189,870.00	80/20	L
0240	10128	308	AGGR. BASE MATL. TY. I NO. 21B			TON	8,336.000	40.10000	334,273.60	80/20	L
0250	10415	311	PRIME COAT			GAL	4,747.000	5.00000	23,735.00	80/20	L
0260	10485	311	NS COVER MATERIAL FINE AGGREGATE B OR NO. 10 AGGREGATE			TON	95.000	150.00000	14,250.00	80/20	L
0270	10607	315	ASPHALT CONCRETE TY. SM-12.5A			TON	6,381.000	157.26000	1,003,476.06	80/20	L
0280	10610	315	ASPHALT CONCRETE TY. IM-19.0A			TON	5,528.000	151.18000	835,723.04	80/20	L
0290	10628	515	FLEXIBLE PAVEMENT PLANING 0" - 2"			SY	37,197.000	7.09000	263,726.73	80/20	L
0300	10642	315	ASPHALT CONCRETE TY. BM-25.0A			TON	323.000	134.47000	43,433.81	80/20	L



Virginia Department of Transportation



Date Printed: 10/15/21

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Preliminary Detail Cost Estimate

Prime Project ID: C000107453C01

Project ID: 000107453C01

UPC: 107453

FHWA 534: 14003

Project Description: Widening of Old Country Road from Beach Rd to Valley Rd

Category: 0100

Regular Bid Items

Federal Structure ID:

Road Segment Length:

Road Segment Width:

Bridge Plan No.:

Num of Spans:

Bridge Length:

Bridge Width:

FHWA Type Code: 03

03-4R - RECONSTRUCTION-ADDED CAPACITY

Activity Code: 631

631-CONTRACT CONSTR - REGULAR - FED

Fed Construction Class:

Line No.	Item Code	Spec Number	Item Description	Alt Set ID	Alt Mem ID	Units	Estimated Qty	Unit Price	Amount	Fund Package ID	Flags*
0310	10700	315	RUMBLE STRIP CYLINDRICAL ASPHALT			LF	10,715.000	1.23000	13,179.45	80/20	L
0320	11070	315 315	NS SAW-CUT ASPH CONC FULL DEPTH			LF	18,337.000	5.00000	91,685.00	80/20	L
0330	12030	502	STD. CURB CG-3			LF	257.000	40.07000	10,297.99	80/20	L
0340	12032	502	RADIAL CURB CG-3			LF	208.000	43.54000	9,056.32	80/20	L
0350	13212	503	R/W MONUMENT RM-2			EA	10.000	250.00000	2,500.00	80/20	L
0360	13280	505	GUARDRAIL GR-MGS1			LF	1,579.000	26.96000	42,569.84	80/20	L
0370	13282	505	GUARDRAIL GR-MGS1, 9' POST			LF	38.000	34.65000	1,316.70	80/20	L
0380	13286	505	GUARDRAIL TERMINAL GR-MGS2			EA	4.000	3,199.02000	12,796.08	80/20	L
0390	13288	505	GUARDRAIL HEIGHT TRANSITION GR-MGS4			EA	1.000	1,021.17000	1,021.17	80/20	L
0400	13401	505 TBD	NS GUARDRAIL GUARDRAIL HEIGHT TRANSITION GR-MGS4, 9' POST			EA	1.000	819.83000	819.83	80/20	L
0410	13496	512	TRAF. BARR. SER. CONC. DOUBLE FACE PAR.MB-11A			LF	1,601.000	61.59000	98,605.59	80/20	L
0420	13604	512	IMPACT ATTEN. SER. TY. 1 TL-3, >=40 MPH			EA	4.000	16,896.61000	67,586.44	80/20	L
0430	14260	ATTD	CRUSHER RUN AGGREGATE NO. 25 OR 26			TON	268.000	56.02000	15,013.36	80/20	L
0440	23560	507	TEMP. SAFETY FENCE 4'			LF	1,648.000	3.90000	6,427.20	80/20	L



Virginia Department of Transportation

SAMPLE
 Project Detail Estimate

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Preliminary Detail Cost Estimate

Prime Project ID: C000107453C01

Project ID: 000107453C01

UPC: 107453

FHWA 534: 14003

Project Description: Widening of Old Country Road from Beach Rd to Valley Rd

Category: 0100

Regular Bid Items

Federal Structure ID:

Road Segment Length:

Road Segment Width:

Bridge Plan No.:

Num of Spans:

Bridge Length:

Bridge Width:

FHWA Type Code: 03

03-4R - RECONSTRUCTION-ADDED CAPACITY

Activity Code: 631

631-CONTRACT CONSTR - REGULAR - FED

Fed Construction Class:

Line No.	Item Code	Spec Number	Item Description	Alt Set ID	Alt Mem ID	Units	Estimated Qty	Unit Price	Amount	Fund Package ID	Flags*
0450	24152	512	TYPE 3 BARRICADE 8'			EA	3.000	516.26000	1,548.78	80/20	L
0460	24160	512	TEMPORARY (CONSTRUCTION) SIGN			SF	770.000	35.84000	27,596.80	80/20	L
0470	24262	ATTD	PORTABLE TEMPORARY RUMBLE STRIP ARRAY			DAY	226.000	95.51000	21,585.26	80/20	L
0480	24272	512	TRUCK MOUNTED ATTENUATOR			HR	2,842.000	32.00000	90,944.00	80/20	L
0490	24278	512	GROUP 2 CHANNELIZING DEVICES			DAY	25,643.000	0.83000	21,283.69	80/20	L
0500	24279	512	PORTABLE CHANGEABLE MESSAGE SIGN			HR	3,168.000	6.74000	21,352.32	80/20	L
0510	24282	512	FLAGGER SERVICE			HR	5,880.000	27.87000	163,875.60	80/20	L
0520	24400	508	OBSCURING ROADWAY			UNIT	13.000	532.87000	6,927.31	80/20	L
0530	24430	508	DEMOLITION OF PAVEMENT FLEXIBLE			SY	5,333.000	14.19000	75,675.27	80/20	L
0540	24600	505	REMOVE EXISTING GUARDRAIL			LF	3,094.000	3.46000	10,705.24	80/20	L
0550	25507	514	FIELD OFFICE TY.III			MO	14.000	2,500.00000	35,000.00	80/20	L
0560	27012	602	TOPSOIL CLASS A 2"			ACRE	11.110	12,091.12000	134,332.34	80/20	L
0570	27102	603	REGULAR SEED			LB	2,083.000	15.69000	32,682.27	80/20	L
0580	27103	603	OVERSEEDING			LB	1,667.000	7.92000	13,202.64	80/20	L
0590	27111	603	HYDRAULIC EROSION CONTROL PRODUCT TYPE 2			SY	50,457.000	1.37000	69,126.09	80/20	L



Virginia Department of Transportation



Date Printed: 10/15/21

Preliminary Detail Cost Estimate

Page 5 of 8

Prime Project ID: C000107453C01

Project ID: 000107453C01

UPC: 107453

FHWA 534: 14003

Project Description: Widening of Old Country Road from Beach Rd to Valley Rd

Category: 0100 Regular Bid Items

Federal Structure ID:

Road Segment Length:

Road Segment Width:

Bridge Plan No.:

Num of Spans:

Bridge Length:

Bridge Width:

FHWA Type Code: 03 03-4R - RECONSTRUCTION-ADDED CAPACITY

Activity Code: 631 631-CONTRACT CONSTR - REGULAR - FED

Fed Construction Class:

Line No.	Item Code	Spec Number	Item Description	Alt Set ID	Alt Mem ID	Units	Estimated Qty	Unit Price	Amount	Fund Package ID	Flags*
0600	27112	603	HYDRAULIC EROSION CONTROL PRODUCT TYPE 3			SY	16,759.000	1.95000	32,680.05	80/20	L
0610	27230	603	FERTILIZER NITROGEN - N			LB	854.000	7.27000	6,208.58	80/20	L
0620	27231	603	FERTILIZER PHOSPHOROUS - P			LB	1,042.000	7.78000	8,106.76	80/20	L
0630	27232	603	FERTILIZER POTASSIUM - K			LB	521.000	2.46000	1,281.66	80/20	L
0640	27250	603	LIME			TON	38.890	264.75000	10,296.13	80/20	L
0650	27318	606	ROLLED EROSION CTRL PRODUCT EC-2 TYPE 1			SY	8,220.000	3.52000	28,934.40	80/20	L
0660	27320	606	ROLLED EROSION CTRL PRODUCT EC-2 TYPE 3			SY	438.000	2.27000	994.26	80/20	L
0670	27327	606	ROLLED EROSION CTRL PRODUCT EC-3 TYPE 3			SY	2.000	34.91000	69.82	80/20	L
0680	27410	303	CHECK DAM, ROCK TY. I			EA	9.000	634.43000	5,709.87	80/20	L
0690	27415	303	CHECK DAM ROCK TY. II			EA	209.000	317.84000	66,428.56	80/20	L
0700	27430	303	SILTATION CONTROL EXCAVATION			CY	2,147.000	22.57000	48,457.79	80/20	L
0710	27451	303	INLET PROTECTION TYPE A			EA	5.000	412.29000	2,061.45	80/20	L
0720	27504	303	TEMP. SILT FENCE TYPE B			LF	1,087.000	5.72000	6,217.64	80/20	L
0730	27505	303	TEMP. SILT FENCE TYPE A			LF	8,511.000	4.70000	40,001.70	80/20	L



Virginia Department of Transportation



Date Printed: 10/15/21

Preliminary Detail Cost Estimate

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Prime Project ID: C000107453C01

Project ID: 000107453C01

UPC: 107453

FHWA 534: 14003

Project Description: Widening of Old Country Road from Beach Rd to Valley Rd

Category: 0100

Regular Bid Items

Federal Structure ID:

Road Segment Length:

Road Segment Width:

Bridge Plan No.:

Num of Spans:

Bridge Length:

Bridge Width:

FHWA Type Code: 03

03-4R - RECONSTRUCTION-ADDED CAPACITY

Activity Code: 631

631-CONTRACT CONSTR - REGULAR - FED

Fed Construction Class:

Line No.	Item Code	Spec Number	Item Description	Alt Set ID	Alt Mem ID	Units	Estimated Qty	Unit Price	Amount	Fund Package ID	Flags*
0740	27580	303	TEMP. SEDIMENT BASIN EXCAVATION			CY	188.000	16.90000	3,177.20	80/20	L
0750	50108	701	SIGN PANEL			SF	231.000	39.00000	9,009.00	80/20	L
0760	50320	700	REMOVE EXISTING 1 POST SIGN PANEL			EA	46.000	114.29000	5,257.34	80/20	L
0770	50340	700	RELOCATE EXISTING 1 POST GROUND MOUNTED SIGN PANEL			EA	1.000	366.87000	366.87	80/20	L
0780	50342	700	RELOCATE EXISTING 2 POST GROUND MOUNTED SIGN PANEL			EA	1.000	300.00000	300.00	80/20	L
0790	50430	700	SIGN POST STP-1, 2", 14 GAUGE			LF	432.000	29.72000	12,839.04	80/20	L
0800	50434	700	SIGN POST STP-1, 2 1/2", 10 GAUGE			LF	16.000	34.44000	551.04	80/20	L
0810	50436	700	SIGN POST STP-1, 2 1/2", 12 GAUGE			LF	48.000	47.47000	2,278.56	80/20	L
0820	50485	700	CONCRETE SIGN FOUNDATION STP-1, TYPE A			EA	27.000	477.76000	12,899.52	80/20	L
0830	50486	700	CONCRETE SIGN FOUNDATION STP-1, TYPE B			EA	1.000	642.74000	642.74	80/20	L
0840	54032	704	TYPE B CLASS I PVMT LINE MRKG 4"			LF	40,385.000	0.75000	30,288.75	80/20	L
0850	54042	704	TYPE B CLASS I PAVE. LINE MARKING 24"			LF	315.000	7.81000	2,460.15	80/20	L
0860	54105	512	ERADICATE EXIST. LINEAR PVMT MARKING			LF	97,753.000	0.75000	73,314.75	80/20	L



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Preliminary Detail Cost Estimate

Prime Project ID: C000107453C01

Project ID: 000107453C01

UPC: 107453

FHWA 534: 14003

Project Description: Widening of Old Country Road from Beach Rd to Valley Rd

Category: 0100

Regular Bid Items

Federal Structure ID:

Road Segment Length:

Road Segment Width:

Bridge Plan No.:

Num of Spans:

Bridge Length:

Bridge Width:

FHWA Type Code: 03

03-4R - RECONSTRUCTION-ADDED CAPACITY

Activity Code: 631

631-CONTRACT CONSTR - REGULAR - FED

Fed Construction Class:

Line No.	Item Code	Spec Number	Item Description	Alt Set ID	Alt Mem ID	Units	Estimated Qty	Unit Price	Amount	Fund Package ID	Flags*
0870	54210	510	REMOVE EXIST. RAISED PAVEMENT MARKER			EA	240.000	34.52000	8,284.80	80/20	L
0880	54219	ATTD	INLAID PAVEMENT MARKER ASPHALT			EA	139.000	55.98000	7,781.22	80/20	L
0890	54240	512	TEMP. PAVE. MARKER 1 WAY			EA	34.000	10.44000	354.96	80/20	L
0900	54242	512	TEMP. PAVE. MARKER 2 WAY			EA	14.000	11.09000	155.26	80/20	L
0910	54428	512	TEMP. PVMT MRKG, TY. A, 4"			LF	57,328.000	0.23000	13,185.44	80/20	L
0920	54432	512	TEMP. PVMT MRKG, TY. A, 8"			LF	963.000	0.94000	905.22	80/20	L
0930	54440	512	TEMP. PVMT MRKG, TY. A, 24"			LF	50.000	7.76000	388.00	80/20	L
0940	54512	512	TYPE D, CLASS II TEMP. PVMT MRKG 4"			LF	23,482.000	2.04000	47,903.28	80/20	L
0950	54524	512	TYPE D, CLASS II TEMP. PVMT MRKG 24"			LF	50.000	17.87000	893.50	80/20	L
0960	54574	704	PVMT SYMB MRKG SGL TURN ARROW TY B, CL I			EA	4.000	149.22000	596.88	80/20	L
0970	54589	704	PVMT SYMB MRKG LANE REDUCTION ARROW TY B, CL I			EA	4.000	473.55000	1,894.20	80/20	L
0980	70000	516 516	NS DEMO. OF BLDG. Parcel 004, D-701			LS	1.000	1,000.00000	1,000.00	80/20	L B

Category Total: \$6,968,751.08



Virginia Department of Transportation

SAMPLE
Project Detail Estimate

Date Printed: 10/15/21

Preliminary Detail Cost Estimate

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Prime Project ID: C000107453C01

Project ID: 000107453C01

UPC: 107453

FHWA 534: 14003

Project Description: Widening of Old Country Road from Beach Rd to Valley Rd

Category: 3001 LUMP SUM CEI

Federal Structure ID:

Road Segment Length:

Road Segment Width:

Bridge Plan No.:

Num of Spans:

Bridge Length:

Bridge Width:

FHWA Type Code: 17 17-CONSTRUCTION ENGINEERING

Activity Code: 631 631-CONTRACT CONSTR - REGULAR - FED

Fed Construction Class:

Line No.	Item Code	Spec Number	Item Description	Alt Set ID	Alt Mem ID	Units	Estimated Qty	Unit Price	Amount	Fund Package ID	Flags*
0990	25580	CONST. ENGR.	CONSTRUCTION ENGINEERING			TEC	1.000	1,254,375.19	1,254,375.19	80/20	N L

Category Total: \$1,254,375.19

Project Total \$ 10,595,166.26

(includes Non-Bid items,CN oversight and Contingency)



Virginia Department of Transportation

SAMPLE
 Project Detail Estimate

Date Printed: 10/15/21

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Preliminary Detail Estimate Funding Summary

Prime Project ID: C000107453C01

Project ID: 000107453C01

Oversight/State Project Number: 00753-029-509

UPC: 107453

Federal Project Number: STP-29-6(045)

FHWA 534: 14003

Project Description: Widening of Old Country Road from Beach Rd to Valley Rd

Urban/Rural: U

Road Type: ARTERIAL

Category / Cost	Engineering Percent	Engineering Amount	Contingency Percent	Contingency Amount	Total	Funding Package	Fund %	Fund	Funding Amount
Project ID 000107453C01		Category ID 0100		Description Regular Bid Items					
6,968,751.08	0.00 %	0.00	5.00 %	348,437.55	6,968,751.08	80/20	20.00	S400	1,393,750.21
						80/20	80.00	AF01	5,575,000.87
Category Total									\$7,317,188.63
Project ID 000107453C01		Category ID 3001		Description LUMP SUM CEI					
1,254,375.19	0.00 %	0.00	0.00 %	0.00	1,254,375.19	80/20	20.00	S400	250,875.04
						80/20	80.00	AF01	1,003,500.15
Category Total									\$1,254,375.19
Project ID 000107453C01		Category ID 3003		Description LUMP SUM PROJECT RISK CONTINGENCY					
1,555,477.37	0.00%	0.00	0.00%	0.00	1,555,477.37	80/20	20.00	S400	311,095.47
						80/20	80.00	AF01	1,244,381.90
Category Total									\$1,555,477.37
Project ID 000107453C01		Category ID 3002		Description LUMP SUM NON BID ITEMS (State Forces, State Police, Incentive/ Disincentives)					
468,125.07	0.00%	0.00	0.00%	0.00	468,125.07	80/20	20.00	S400	93,625.01
						80/20	80.00	AF01	374,500.05
Category Total									\$468,125.07
Project Total									\$10,595,166.26