COUNTY OF LOUDOUN
PUBLIC IMPROVEMENT BOND UNIT COST LIST AND BOND REDUCTION FORM (CPAP)

PROJECT NAME: East Gate One - Rt. 50 West Bound Lane Improvements PROJECT NUMBER: CPAP-2006-0122
PREPARED BY: Donnie Kozanecki FIRM: christopher consultants, ltd. DATE: 2/9/09

		BOND ESTIMATE			BOND REDUCTION		
ITEM	UNIT	UNIT COST	QUANTITY	EXTENSION	QUANTITY	EXTENSION	%COMPLETE
MOBILIZATION GENERAL							
Mobilization	EA	$6,250.00	1	$6,250.00			
Field Office	EA	$3,000.00					
Job Sign	EA	$1,150.00					
SURVEYING							
Steel Pipe Property Corner Marker Incl. Survey	EA	$190.75					
R.O.W. Monuments Surveyed In Place							
RM -- 1	EA	$912.53					
RM -- 2	EA	$626.75					
EARTHWORK EXCAVATION							
Regular Bulk	CY	$3.86	1925.00	$7,430.50			
Rock, Rip	CY	$17.30					
Rock, Blast	CY	$38.48					
Unsuitable Haul & Replace	CY	$42.40					
Fill and Compaction of On-site Borrow	CY	$4.70	366.00	$1,720.20			
BORROW MATERIAL							
Buy and Load Select Material	CY	$26.95					
Haul, 5 Mile R/T	CY	$11.53					
UNSUITABLE MATERIAL							
Load and Haul, 5 mi R/T	CY	$14.45					
Dump Charge	CY	$11.53					
Site Grading	SY	$0.67					
CLEAR & GRUB							
Light	AC	$6,471.88	6.17	$39,931.50			
Moderate	AC	$9,708.75					
Heavy	AC	$12,211.25					
Very Heavy	AC	$14,238.13					
LANDSCAPING							
Seeding	SY	$0.77					

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ITEM	UNIT	UNIT COST	QUANTITY	EXTENSION	QUANTITY	EXTENSION	%COMPLETE
Sodding	SY	$3.64					
PLANTING SHRUBS							
18"	EA	$29.88					
24"	EA	$38.48					
TREES							
6' – 8'	EA	$260.00					
8' – 10'	EA	$463.75					
Tree Protection	EA	$100.13					
MISCELLANEOUS SITE IMPROVEMENTS							
Retaining Walls							
Timber Wall (Less Than 6 ft)	LF	$250.00					
Dry Rubble RW-1 (H=6 FT)	LF	$303.13					
Mortared Rubble RW-1A (H=6 FT)	LF	$320.38					
Concrete Gravity RW-2 (H=6 FT)	LF	$254.38					
Concrete Gravity RW-3 (H=6 FT)	LF	$295.00					
FENCING							
Std. Fence (H=5') FR-5	LF	$9.31					
Farm Fence (H=5') FR-3A	LF	$10.90					
Chain Link Fence (H=6')FR 2-B	LF	$14.52					
Board Fence (H=6')	LF	$19.35					
TOT LOTS							
Tot Lot	EA	$13,500.00					
STORM DRAINAGE							
STORM SEWER							
NOTE: All pipe unit prices include trench, excavation, bedding, pipe, & backfill							
Roc Excavatio for All Pipe Types (Blasting)							
Pipe size 6"- 18"	VF/LF	$6.04					
Pipe size 21" – 36"	VF/LF	$8.61					
Pipe size 42" – 60"	VF/LF	$14.34					

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ITEM	UNIT	UNIT COST	QUANTITY	EXTENSION	QUANTITY	EXTENSION	%COMPLETE
Pipe size 72" –120"	VF/LF	$20.65					
Select Backfill for All Pipe Types							
4' Straight							
Up 1:1 Layback							
Pipe size 6" – 18" To 10'	VF/LF	$5.81					
Pipe size 21" – 36" To 10'	VF/LF	$7.04					
Pipe size 42" – 60" To 10'	VF/LF	$8.65					
Pipe size 42" – 60" To 14'	VF/LF	$13.74					
Pipe size 72" – 120" To 14'	VF/LF	$15.65					
RCP CLASS III ROUND							
T & G W/MASTIC							
12" Pipe							
0' – 8' Cut	LF	$29.25					
8' – 14' Cut	LF	$45.90					
Add cost for Class IV	LF	$0.85					
15" Pipe							
0' – 10' Cut	LF	$40.10	2414.00	$96,801.40			
10' – 16'	LF	$71.21					
Add Cost for Class IV	LF	$0.90					
18" Pipe							
0' – 10' Cut	LF	$46.19	1380.00	$63,742.20			
10' – 16' Cut	LF	$78.06					
Add Cost for Class IV	LF	$1.35					
21" Pipe							
0' – 10' Cut	LF	$51.24	657.00	$33,664.68			
10' – 16' Cut	LF	$83.28					
Add Cost for Class IV	LF	$2.40					
24" Pipe							
0' – 10' Cut	LF	$57.38					
10' – 16' Cut	LF	$89.91					
Add Cost for Class IV	LF	$2.85					
27" Pipe							
0' – 10' Cut	LF	$58.17	539.00	$31,353.63			
10' – 16' Cut	LF	$98.58					
Add Cost for Class IV	LF	$4.00					
30" Pipe							
0' – 10' Cut	LF	$83.53	111.41	$9,306.08			

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ITEM	UNIT	UNIT COST	QUANTITY	EXTENSION	QUANTITY	EXTENSION	%COMPLETE
10' – 16' Cut	LF	$129.35					
Add Cost for Class IV	LF	$6.15					
33" Pipe							
0' – 12' Cut	LF	$126.28					
10' – 18' Cut	LF	$168.76					
Add Cost for Class IV	LF	$6.65					
36" Pipe							
0' – 12' Cut	LF	$132.90	119.00	$15,815.10			
12' – 18' Cut	LF	$184.77					
Add Cost for Class IV	LF	$6.80					
42" Pipe							
0' – 12' Cut	LF	$149.16	274.00	$40,869.84			
12' – 18' Cut	LF	$193.75					
Add Cost for Class IV	LF	$11.85					
48" Pipe							
0' – 12' Cut	LF	$162.57	137.00	$22,272.09			
12' – 18' Cut	LF	$205.50					
Add Cost for Class IV	LF	$15.30					
54' Pipe							
0' – 12' Cut	LF	$197.14	12.00	$2,365.68			
12' – 18' Cut	LF	$243.06					
Add Cost for Class IV	LF	$18.75					
60" Pipe							
0' – 12' Cut	LF	$220.77					
12' – 18' Cut	LF	$268.71					
Add Cost for Class IV	LF	$23.45					
E LIPTICAL PIPE – RCP CLASS III							
23" 14" (18" Equivalent)							
0' – 10' Cut	LF	$79.44					
10' – 16' Cut	LF	$116.41					
30" X 19" (24" Equivalent)							
0' – 10' Cut	LF	$99.24					
10' – 16' Cut	LF	$137.47					
38" 24" (30" Equivalent)							
0' – 10' Cut	LF	$120.17					
10' – 16' Cut	LF	$159.58					

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ITEM	UNIT	UNIT COST	QUANTITY	EXTENSION	QUANTITY	EXTENSION	%COMPLETE
45" X 29" (36" Equivalent)							
0' – 10' Cut	LF	$158.61					
10' – 16' Cut	LF	$206.02					
53" X 34" (42" Equivalent)							
0' – 12' Cut	LF	$213.27					
10' – 18' Cut	LF	$265.96					
60" X 38" (48" Equivalent)							
0' – 12' Cut	LF	$248.08					
10' – 18' Cut	LF	$298.29					
STORM STRUCTURES							
END SECTIONS							
End Section (ES-1), Concrete Pipe Size							
15"	EA	$435.00					
18"	EA	$556.63					
21"	EA	$642.25					
24"	EA	$728.38					
27"	EA	$879.75					
30"	EA	$1,499.38					
36"	EA	$1,317.13					
42"	EA	$1,579.00					
48"	EA	$2,010.75					
54"	EA	$2,356.13					
60"	EA	$2,933.88					
Rock Excavation (Blasting) Rock Cut							
(D=4'. H=6 FT) (6.3 CY)	EA	$351.25					
Hoe Ram	EA	$745.00					
Trench De-watering							
De-watering for One Structure	EA	$67.25					
Rock Excavation(2) Rock Cut (Blasting)							
(D=4'. H=5 FT) (5.2 CY)	EA	$290.75					
Hoe Ram	EA	$553.75					
ENDWALLS							

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ITEM	UNIT	UNIT COST	QUANTITY	EXTENSION	QUANTITY	EXTENSION	%COMPLETE
Endwalls (EW-1) [Round Pipe] Pipe Size							
15"	EA	$663.25	1.00	$663.25			
18"	EA	$830.63					
24"	EA	$1,157.50					
30"	EA	$1,602.75					
36"	EA	$1,834.25					
Endwall (EW-1A) [Elliptical Pipe] Pipe Size							
23" X 14" (18")	EA	$707.38					
30" X 19" (24")	EA	$1,025.50					
38" X 24" (30")	EA	$1,116.25	1.00	$1,116.25			
45" X 29" (36")	EA	$1,387.50					
53" X 34" (42")	EA	$1,718.00					
End all (EW-2) [Round Pipe] Pipe Size							
42"	EA	$4,377.50					
48"	EA	$4,751.38					
54"	EA	$5,253.50	1.00	$5,253.50			
60"	EA	$5,622.38					
72"	EA	$6,296.88					
84"	EA	$7,383.50					
MANHOLES							
Standard Precast Manhole Std Frame & Cover (MH-2) 4' ID							
6' Depth	EA	$2,226.25					
Depth below 6'	VF	$277.88					
dditional Cost (Amounts in parentheses to be added to the above unit costs)							
Watertight Fr/Cover (Add 110)	EA	$353.13					
Heavy Duty Fr/Cover (Add 82)	EA	$330.13					
DROP IN ETS							
48"							

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ITEM	UNIT	UNIT COST	QUANTITY	EXTENSION	QUANTITY	EXTENSION	%COMPLETE
Drop Inlet (DI-1) 12" – 24" Pipe 0-10 VF	EA	$3,597.00					
Drop Inlet (DI-1A) 12" – 24" Pipe 10-20 VF	EA	$5,013.75					
Drop Inlet (DI-2) 12" – 24" Pipe 0-10 VF, 10' throat	EA	$6,179.88					
Drop Inlet (DI-2A) 12" – 24" Pipe 10-20 VF, 10' throat	EA	$8,467.75					
CURB DROP INLETS							
Curb Drop Inlet (DI-3A) 12"-30" Pipe (Invert Depth (H) =0'-8') Inlet Length 2'-6"	EA	$3,886.63					
Curb Drop Inlet (DI-3AA) 12"-30" Pipe (Invert Depth (H) =8'-20') Inlet Length 2'-6"	EA	$4,582.13					
Curb Drop Inlet (DI-3B & DI-12) 12"-30" Pipe (Invert Depth (H) =0'-8') Inlet Length							
4'	EA	$4,133.50	3.00	$12,400.50			
6'	EA	$4,420.13	20.00	$88,402.60			
8'	EA	$4,699.00					
12'	EA	$4,804.25					
16'	EA	$4,897.63					
20'	EA	$5,040.00					
Curb Drop Inlet (DI-3C) 12'-30" Pipe (Invert Depth (H) =0'-8') Inlet Length							
6'	EA	$3,573.63	1.00	$3,573.63			
8'	EA	$4,097.00					
12'	EA	$4,621.25					
16'	EA	$5,145.50					
20'	EA	$5,669.75					
Curb Drop Inlet (DI-3D) 12"-30" Pipe (Invert Depth (H) =0'-8') Inlet Length 2'-6"	EA	$3,229.13					

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ITEM	UNIT	UNIT COST	QUANTITY	EXTENSION	QUANTITY	EXTENSION	%COMPLETE
Curb Drop Inlet (DI-3DD) 12"-30" Pipe (Invert Depth (H) =8'-20') Inlet Length 2'-6"	EA	$5,364.38					
Curb Drop Inlet (DI-4A) 36"–48" Pipe (Invert Depth (H)=0'-8') Inlet Length							
4'	EA	$4,264.25					
Curb Drop Inlet (DI-4B) 36"-48" Pipe (Invert Depth (H) =0 -8') Inlet Length							
6'	EA	$4,710.50					
8'	EA	$5,029.00					
12'	EA	$5,348.50					
16'	EA	$5,667.38					
20'	EA	$5,988.75					
Curb Drop Inlet (DI-4C) 36"-48" Pipe (Invert Depth (H) =0'-8') Inlet Length							
8'	EA	$5,121.38					
12'	EA	$5,441.25					
16'	EA	$5,759.38					
20'	EA	$6,079.25					
MISCELLANEOUS INLETS							
Ditch Drop Inlet, (DI-5) Type III Tip 12"-42" Pipe Inlet (H=8')	EA	$4,605.88	3.00	$13,817.64			
Standard Yard Inlet (YI-1) 12"-48" Pipe (Invert Depth (H)=0'-8') Inlet Length 4'(No Aprons)	EA	$4,117.25					
Add Yard Inlet Apron	THROAT	$252.13					
CULVERTS							
Single Box Culvert (BC-1A) Fills to 25'							
4' X 4'	LF	$281.25					
5' x 5"	LF	$349.25					
6' X 6'	LF	$418.63					

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ITEM	UNIT	UNIT COST	QUANTITY	EXTENSION	QUANTITY	EXTENSION	%COMPLETE
8' X 8'	LF	$582.75					
10' X 10'	LF	$710.75					
Standard Wing for Box Culvert (1 Side Only) Height of Box							
4'	EA	$568.50					
5'	EA	$848.75					
6'	EA	$1,130.38					
8'	EA	$2,101.13					
10'	EA	$2,802.88					
MISCELLANEOUS STORM							
Connection to Existing Structure							
15"-36" Pipe	EA	$662.88					
42"- 60" Pipe	EA	$1,015.63	1.00	$1,015.63			
Casing Pipe, Bore and Jack (3/8" wall)							
22" ID (6"-8" Carrier Pipe)	LF	$371.75					
24" ID (10" Carrier Pipe)	LF	$407.25					
30" ID (12" Carrier Pipe)	LF	$516.13					
Plug Pipe							
6" –12" Pipe	EA	$169.75					
15"-36" Pipe	EA	$410.38					
42"- 60" Pipe	EA	$609.88					
Pavement Edge Pipe							
Standard Pipe Underdrain	LF	$18.99	6380.00	$121,156.20			
Riprap							
Dry, Class I, 18"	SY	$47.95	50.00	$2,397.50			
Dry, Class II, 18"	SY	$50.34					
Grouted, Class I, 18"	SY	$63.50					
Filter Fabric							
Class I	SY	$3.49					
Class II	SY	$3.01					
Class III	SY	$2.29					
Gabions (No excavation)							
Mattress	CY	$120.75					
Revetment	CY	$151.88					
Wall	CY	$151.88					

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ITEM	UNIT	UNIT COST	QUANTITY	EXTENSION	QUANTITY	EXTENSION	%COMPLETE
Paved Ditch (4" Thick)							
Concrete (Non-reinforced)	SY	$58.48					
Bituminous Concrete(4")	SY	$27.24					
Sodded Ditch (Incl Fine Grading)	SY	$6.29					
Surface Area x Depth	8,000 Acre- Ft	$9,260.00					
Or Approx.	CY	$5.79					
STREET CONSTRUCTION							
ROADS AND PARKING							
Soil Stabilization	**Inches**						
Cement 6%	SY/Inch Depth	$2.00					
Depth (in Inches):							
Lime 6%	SY/Inch Depth	$1.93					
Depth (in Inches):							
Subbase, Aggregated Material							
Base Type I	SY/Inch Depth	$1.34	10048.00	$161,571.84			
Depth (in Inches):	12						
Bituminous Concrete							
BM-25.0	SY/Inch Depth	$4.54	8660.00	$157,265.60			
Depth (in Inches):	4						
IM-19.0A	SY/Inch Depth	$5.41	9313.00	$100,766.66			
Depth (in Inches):	2						
SM-9.5A	SY/Inch Depth	$5.41	9313.00	$75,575.00			
Depth (in Inches):	1.5						
Prime Coat	SY	$0.79					
Tack Coat	SY	$0.69					
Driveway Restoration							
4" Concrete & 4" Gravel	SY	$77.84					
2" S-5 & 7 6" Gravel	SY	$22.62					
Shoulders, Type I							
Aggregated Base, 4"	SY	$5.93					

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Concrete Curbing							
Concrete Curb & Cutter CG6&7	LF	$20.50	6380.00	$130,790.00			
Curb Cut, CG-12 w/exp. Aggreg	EA	$650.00					
Entrances/Driveways							
Commercial Entrance	EA	$2,756.25					
Residential Driveway Apron	EA	$1,043.75	6.00	$6,262.50			
Guardrails							
Std. Blocked-out W beam (SPS)	LF	$34.49					
Std. W beam, Weak Post GR8	LF	$25.03					
Terminal, GR-6 (L=12'-6")	EA	$1,645.75					
Terminal, GR-7 (L=6'-3")	EA	$852.75					
Type I, GR-8 Terminal (L=25')	EA	$1,224.38					
Type II, GR-8 Terminal (L=13'-6")	EA	$679.75					
Terminal, MB-4 (L=37'-6")	EA	$2,969.25					
Type I, MB-5 Terminal (L=27'-1)	EA	$1,707.38					
Type II, MB-5 Terminal (L=13'-6)	EA	$866.50					
Miscellaneous							
Reinforced Concrete Pad 6" to 8"	SY	$55.00					
Striping 4" width (VDOT Type B)	LF	$0.85	5970.00	$5,074.50			
Parking Lot Striping	EA	$49.25					
Sign Island	EA	$849.68					
Traffic Barricade	LF	$43.71					
Street Name Signs	EA	$146.00					
Traffic Control Signs	EA	$135.50					
Street Lighting, incl pole, brack	EA	$4,073.75					
SIDEWALKS AND TRAILS							
Sidewalk							
Concrete 4" w/WWF, No base	SY	$35.65					
Bitum. Conc, 2" w/4" Base	SY	$14.82					
4" Conc, No Reinf., No Base	SY	$33.08					
Handrail 3 Rail 1-1/4" #4 Finish	LF	$33.11					
Wood Chip Trail							
Trails(Incl Excavation & Grading) Wood chip, 4' wide	SY	$15.93					
Bituminuos Trail							
4' to 6' wide	SY	$30.00					

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ITEM	UNIT	UNIT COST	QUANTITY	EXTENSION	QUANTITY	EXTENSION	%COMPLETE
8' to 10' wide	SY	$25.00					
CRITICAL SLOPE STABILIZATION							
Paved Flume	SY	$59.50					
Stmwtr Conc Channel-Excav	SY	$7.61					
ADD Grass Lined-seeded	SY	$0.87					
ADD Grass Lined-sodded	SY	$4.33					
Outlet Protection							
Non-grouted Riprap 18"	SY	$48.24					
Concrete 4"	SY	$49.99					
Struc Strea bank Protection							
Non-grouted Riprap 18"	SY	$55.94					
Gabions	CY	$141.20					
Vegetative Erosion Control							
Sodding incl Fertilizing – Banks	SY	$5.76					
Sodding incl Fertilizing – Flat	SY	$4.33					
Seeding incl Fertilizing	SY	$0.76					
Straw Mulch w/Tack	SY	$1.44					
Jute Mesh	SY	$1.77					
Special dditions (User Added)							
Aggregated Shoulder Base 6"	SY	$8.90	9.00	$80.10			

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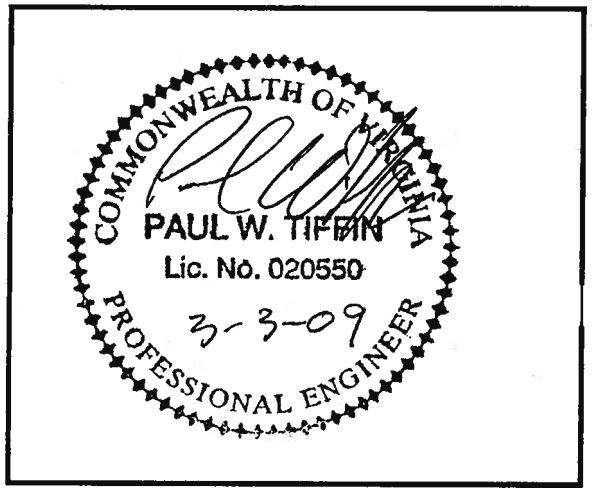
FEMA Processing LOMR/CLOMR	EA	$7,500.00					
As Built (Record Drawings)	EA	$7,500.00	1.00	$7,500.00			
SWM/BMP POND	EA	See Note 1					
SIGNALIZATION	EA	See Note 2					
Subtotal				###########			

TOTAL ESTIMATE OF COMPLETED WORK:

Note 1 STORMWATER MANAGEMENT/BEST MANAGEMENT PRACTICES POND SHALL REQUIRE A SEPARATE ESTIMATE(ATTACHED) WHEN SHOWN ON THE PLAN TO INCLUDE, BUT NOT LIMITED TO EXCAVATION, GRADING, BLASTING, CONCRETE, PIPING, OUTLET STRUCTURE, AND OTHER NECESSARY COMPONENTS OF THE FACILITY.

Note 2 SIGNALIZATION SHALL REQUIRE A SEPARATE DETAILED ESTIMATE (ATTACHED) WHEN SHOWN ON THE PLAN.

SEAL & SIGNATURE OF ENGINEER



TOTAL: $1,266,205.79