

**SOUTH KING STREET WIDENING PHASE II
(MASONS LN. TO GREENWAY DR.)**

**BIDDING DOCUMENTS
SUPPLEMENTAL SPECIFICATIONS**

**TOWN OF LEESBURG
25 WEST MARKET STREET
LEESBURG, VIRGINIA 20176**

April 2015

**IFB No. 13301-FY15-20
UPC 103999
Federal Project #STP-5A01 (480)**

NOTICE OF ADDENDA: Any addenda to this BID will be posted on the Town's bid board and will only be emailed to those firms who have registered on the Bid Board. It is the firm's responsibility to provide a correct email address for the bid board, and to be aware of any addenda.

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**TOWN OF LEESBURG
ADVERTISEMENT FOR BID**

**SOUTH KING STREET WIDENING PHASE II
(MASONS LN. TO GREENWAY DR.)
IFB No. 13301-FY15-20**

SEALED BIDS to construct the above project WILL BE RECEIVED by Ms. Renée LaFollette, Director, Office of Capital Projects for the Town of Leesburg, either by mail or hand delivered to the Third Floor, 25 West Market Street, Leesburg, VA 20176, **UNTIL BUT NO LATER THAN 3:30 p.m., Wednesday, May 13, 2015.** Bids shall be marked “Sealed Bid for South King Street Widening Phase II (Masons Ln. to Greenway Dr.) Bid Date –Wednesday, May 13, 2015 – 3:30 P.M.” Bids will be opened and read aloud at 25 West Market Street, Lower Level Conference Room 1, at that date and time.

All questions regarding this bid must be received in writing by email at CapitalBidQuestions@leesburgva.gov or by fax at 703-737-7065 until but no later than 5:00 p.m. on Wednesday, May 6, 2015.

The project includes construction survey, erosion & sedimentation controls, excavation, embankment, storm sewer, waterline, sanitary sewer, maintenance of traffic, curb, gutter, sidewalk, paving, miscellaneous site work, and all incidentals related thereto.

Bidders interested in this advertisement must be VDOT pre-qualified contractors.

The Town reserves the right to perform all, part, or none of the work.

Bid Documents are available for download from the Town’s Bid Board at <http://www.leesburgva.gov/bidboard> and may be obtained beginning Monday, April 20, 2015. Contact Cindy Steyer at 703-737-2302 or csteyer@leesburgva.gov with questions about obtaining these bid documents. **All addenda issued for this project will only be posted on the Town’s Bid Board.**

Renée LaFollette, P.E., Director
Office of Capital Projects

**TOWN OF LEESBURG, VIRGINIA
OFFICE OF CAPITAL PROJECTS
25 WEST MARKET STREET
LEESBURG, VIRGINIA 20176
IFB NO. 13301-FY15-20**

**BID FORM, PAGE 7 THRU 29
SUBMIT A SIGNED BID FORM BY MAIL OR IN PERSON TO
RENEE LAFOLLETTE, DIRECTOR
OFFICE OF CAPITAL PROJECTS**

FORMAL BIDS WILL BE DUE NO LATER THAN 3:30 P.M., WEDNESDAY, MAY 13, 2015

**CONSTRUCTION OF THE PLANS TITLED
SOUTH KING STREET WIDENING PHASE II
(MASONS LN. TO GREENWAY DR.)**

THE UNDERSIGNED CERTIFIES THAT (CONTRACTOR NAME):

AGREES TO FURNISH ALL NECESSARY LABOR, EQUIPMENT, MATERIALS, AND ALL THINGS NECESSARY TO PERFORM THE WORK AS SET FORTH IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AT THE FOLLOWING PRICES: (ALL PRICES INCLUDE PROVISION AND INSTALLATION).

STIPULATED PRICE ITEMS: THE CONTRACTOR AGREES TO PERFORM RELATED WORK FOR THE FOLLOWING ITEMS AT THE STIPULATED PRICES SHOWN. USE OF THESE ITEMS WILL BE THE SOLE DISCRETION OF THE ENGINEER.

<u>ITEM</u>	<u>UNIT</u>	<u>UNIT PRICE</u>
CRUSHER RUN VDOT #25 OR APPROVED EQUAL	CY	\$35.00

ROCK IS DEFINED AS ANY SOLID MATERIAL OR BOULDERS THAT CANNOT BE REMOVED FROM THE GROUND BY EXCAVATION EQUIPMENT WITHOUT THE USE OF A HOE RAM OR BLASTING METHODS.

THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE 2007 VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS.

CONTRACTORS BIDDING THIS PROJECT MUST BE VDOT PRE-QUALIFIED CONTRACTORS.

<u>SUBMITTED BY:</u>	
VENDOR NAME:	
ADDRESS:	
CITY/STATE/ZIP:	
AUTHORIZED SIGNATURE:	
PRINT NAME AND TITLE:	
TELEPHONE NO:	FACSIMILE NO.:
STATE CORPORATION COMMISSION ID #	
TAX ID NUMBER (FIN/SSN):	
THIS FIRM IS A: (INSERT NAME OF STATE): _____	
<input type="checkbox"/> CORPORATION <input type="checkbox"/> GENERAL PARTNERSHIP <input type="checkbox"/> LTD LIABILITY COMPANY	<input type="checkbox"/> LIMITED PARTNERSHIP <input type="checkbox"/> UNINCORPORATED ASSOC. <input type="checkbox"/> SOLE PROPRIETORSHIP
E-MAIL ADDRESS:	LEESBURG BPOL #:

ADDENDA

Bidder acknowledges receipt of the following ADDENDA, which have been considered in the preparation of this bid.

Addendum No. _____
Addendum No. _____
Addendum No. _____
Addendum No. _____
Addendum No. _____

Dated: _____
Dated: _____
Dated: _____
Dated: _____
Dated: _____

BID FORM

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
	Miscellaneous				
1	Mobilization / Demobilization	LS	1		
2	Construction Survey	LS	1		
3	As-built, complete per DCSM requirements	LS	1		
4	Allaying dust using water truck	DY	25		
5	5'x4' Project Sign, complete as detailed in "Instructions to Bidders/Contract Items of Work".	EA	2		
6	Field Office, VDOT Type II, complete as detailed in "Instructions to Bidders/Contract Items of Work".	LS	1		
	Sub-Total Miscellaneous				
	Clearing, Erosion & Sediment Controls				
7	Clearing & Grubbing	LS	1		
8	Tree removal up to 12" dia., including stump removal, backfill and disposal	EA	110		
9	Tree removal 12" to 18" in dia., including stump removal, backfill and disposal	EA	60		
10	Tree removal larger than 18" dia., including stump removal, backfill and disposal	EA	50		
11	Tree removal BY ARBORIST, up to 12" dia. including stump removal, backfill and disposal	EA	8		
12	Tree removal BY ARBORIST, larger than 12" dia. including stump removal, backfill and disposal	EA	7		
13	Air tool investigation / Root Pruning complete as required incl. Cambistat (Performed by certified arborist)	LF	500		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
14	Tree Branch/Limbs Pruning , complete as directed by Town Arborist	EA	10		
15	Monitoring by Certified Arborist When Requested by Town	HR	100		
16	Construction Entrance Including Wash Rack, Complete in Place Incl. Maintenance & Removal	EA	2		
17	Super Silt Fence Complete in Place Incl. Maintenance & Removal	LF	600		
18	Silt Fence Complete in Place Incl. Maintenance & Removal	LF	3,330		
19	Tree Protection Complete in Place Incl. Maintenance & Removal	LF	2,800		
20	Check Dam Complete in Place Incl. Maintenance & Removal	EA	5		
21	Inlet Protection Complete in Place Incl. Maintenance & Removal	EA	48		
22	Outlet Protection Complete in Place Incl. Maintenance & Removal	EA	4		
23	Culvert Inlet Protection, Complete in Place Incl. Maintenance & Removal	EA	10		
24	Grass Lined (V) Channel, Complete in Place	LF	75		
25	VDOT EC3 Blanket Lined Channel, Complete in Place	LF	1,410		
26	Class I Rip Rap Complete in Place incl. excavation, fabric and installation	TN	50		
27	Class II Rip Rap Complete in Place incl. excavation, fabric and installation	TN	20		
28	Temp. Seeding & Mulching	SY	20,000		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
29	Permanent Seeding & Mulching Incl. Lime and Fertilizer	SY	30,000		
	Sub-Total Clearing, Erosion & Sediment Controls				
	Demolition / Relocation				
30	Remove & Replace temporary 2" Blow off and Encase Valve Boxes in 2'x3' concrete collar, complete in place including excavation, bedding and backfill	LS	1		
31	Remove / Dispose & Restore area - 12" CMP Pipe (EX31-EX32)	LF	35		
32	Remove / Dispose & Restore area - 18" CMP Pipe (EX34-EX35)	LF	12		
33	Remove / Dispose & Restore area - 15" RCP Pipe (EX50-EX51, EX 57-EX601, EX701-EX702, EX801-EX802) Incl. End Sections	LF	195		
34	Remove / Dispose & Restore area - 21" RCP Pipe (EX39-EX40, EX42-EX43)	LF	105		
35	Remove / Dispose & Restore area - 24" RCP Pipe (EX44-EX45, EX48-EX49) Incl. End Sections	LF	115		
36	Remove / Dispose & Restore area - 30" RCP Pipe (EX340-EX345) Incl. End Sections	LF	20		
37	Remove / Dispose & Restore area - Storm Pipe (EX74-EX75)	LF	26		
38	Remove & Dispose of Storm Structures (Structures/ES etc.)	EA	1		
39	Remove & Dispose of Existing EW-12	EA	1		
40	Remove & Dispose of Existing Level Spreader incl. Riprap and Grade area for positive Drainage.	LS	1		
41	Clean Existing Storm Pipe (EX720-EX730)	LF	90		
42	Remove & Dispose of Existing UD-4	LF	500		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
43	Remove & Dispose of Concrete Curb/Gutter	LF	1,900		
44	Demo / Remove & Dispose of Existing Asphalt Trail and Restore Area	SF	2,900		
45	Remove & Dispose of Sign & Post	EA	1		
46	Relocate Existing Sign & Post	EA	2		
47	Remove / Replace / Reset Existing White Vinyl Fence	LF	450		
48	Remove & Replace Fence in Kind	LF	50		
49	Relocate Existing TS Box, complete in place including excavation and backfill	EA	5		
50	Remove and Reset Mail Boxes	EA	3		
51	Demo & Dispose of up to 10" Thick Flexible Pavement (within proposed Median)	SY	6,730		
52	Saw Cut Asphalt Concrete	LF	9,450		
	Sub-Total Demolition / Relocation				
	Maintenance of Traffic (MOT)				
53	Short Term Traffic Control	HR	2,000		
54	MOT Phase I Including but not limited to: (1 EA) W21-4 "Road Under Construction", (1 EA) R2-5a "Reduced Speed Ahead", (1 EA) R2-1 "Speed Limit 35", (2 EA) W20-4 "One Lane Road Ahead", (2 EA) W3-4 "Be Prepared to Stop", (2 EA) W20-7 "Flagman", (1 EA) W20-1 "Road Work Ahead", (2 EA) G20-2V "End Road Work", (1 EA) Cushion Truck, (25 EA) Group II Channelization Devices.	LS	1		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
55	MOT Phase II Including but not limited to: 4,000 LF Concrete Barrier, (8 EA) Impact Attenuator, (1 EA) W21-4 "Road Under Construction", (6 EA) W20-1 "Road Work Ahead", (1 EA) W3-5 "Speed Limit 35", (1 EA) W21-5bR "Right Shoulder Closed Ahead", (1 EA) W21-5aR "Right Shoulder Closed", (1 EA) w16-VP1 "Next 4000 FT", (5 EA) G20-2V "End Road Work", (1 EA) R2-1 "Speed Limit", (1 EA) W9-3L "Left Lane Closed Ahead", (1 EA) "W4-V7R "Keep Right", (1 EA) W4-2L, (25 EA) Group II Channelization Devices.	LS	1		
56	MOT Phase III Including but not limited to: 3,500 LF Concrete Barrier, (2 EA) Impact Attenuator, (1 EA) 60"x24" "Road Under Construction", (1 EA) W3-5 "Speed Limit 35", (4 EA) G20-2V "End Road Work", (2 EA) W4-2R, (1 EA) VR-9 "Keep Left", (1 EA) R2-1 "Speed Limit", (5 EA) W20-1 "Road Work Ahead", (2 EA) W9-3R "Right Lane Closed Ahead", (1 EA) "W4-V7L "Keep Left", (150 EA) Group II Channelization Devices, (1 EA) Arrow Board.	LS	1		
57	MOT Phase IV (Stage 1) Including but not limited to: 3,900 LF Concrete Barrier, (4 EA) Impact Attenuator, (1 EA) 60"x24" "Road Under Construction", (1EA) R2-5a "Reduced Speed Ahead", (1 EA) W3-5 "Speed Limit 35", (4 EA) G20-2V "End Road Work", (1 EA) R2-1 "Speed Limit", (2 EA) W20-1 "Road Work Ahead", (60 EA) Group II Channelization Devices.	LS	1		
58	MOT Phase IV (Stage 2) Including but not limited to: 1,600 LF Concrete Barrier, (2 EA) Impact Attenuator, (2 EA) G20-2V "End Construction", (2 EA) W4-2R, (1 EA) VR-9 "Keep Left", (1 EA) R2-1 "Speed Limit", (3 EA) W20-1 "Road Work Ahead", (2 EA) W9-3L "Left Lane Closed Ahead", (1 EA) "W4-V7R "Keep Right", (2 EA) W4-2L, (25 EA) Group II Channelization Devices.	LS	1		
59	Group II Channelization Devices	EA	75		
60	Portable Message Board	DY	125		
61	Eradication of Existing Pavement Marking	LF	2,000		
62	Construction Pavement Marking Type 'D'	LF	8,000		
63	Repair / Replace Temporary Impact Attenuator	EA	4		
	Sub-Total Maintenance of Traffic				

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
	Storm Sewer				
64	15" SSP Pipe, Completed in place including Excavation, Bedding & Backfill	LF	1,346		
65	21" SSP Pipe, Completed in place including Excavation, Bedding & Backfill	LF	28		
66	24" SSP Pipe, Completed in place including Excavation, Bedding & Backfill	LF	685		
67	30" SSP Pipe, Completed in place including Excavation, Bedding & Backfill	LF	308		
68	36" SSP Pipe, Completed in place including Excavation, Bedding & Backfill	LF	1,105		
69	19"X30" HERCP, Completed in place including Excavation, Bedding & Backfill	LF	400		
70	STR 320, Replace Top with DI-3A (4' THT), Complete in place including excavation & backfill	EA	1		
71	STR 322, Replace Top with DI-3B (4' THT), Complete in place including excavation & backfill	EA	1		
72	STR 324, Replace Top with DI-3B (6' THT), Complete in place including excavation & backfill	EA	1		
73	STR 326, SWM FILTER 6'X15', Complete in place including excavation, bedding & backfill	EA	1		
74	STR 350, DI-4B (H=6.36, L=8'), Complete in place including excavation, bedding & backfill	EA	1		
75	STR 352, 24" ES-1, Complete in place including excavation, bedding & backfill	EA	1		
76	STR 360, DI-4B (H=6.6', L =6'), Complete in place including excavation, bedding & backfill	EA	1		
77	STR 362, 21" ES-1, Complete in place including excavation, bedding & backfill	EA	1		
78	STR 370, Std MH-2 (H=6.76'), Complete in place including excavation, bedding & backfill	EA	1		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
79	STR 380, DI-4B (H=6.6', L=6'), Complete in place including excavation, bedding & backfill	EA	1		
80	STR 385, DI-3B (H=4.54', L=6'), Complete in place including excavation, bedding & backfill	EA	1		
81	STR 390, DI-4B (H=6.34', L=6'), Complete in place including excavation, bedding & backfill	EA	1		
82	STR 400, DI-4B (H=6.17', L=6'), Complete in place including excavation, bedding & backfill	EA	1		
83	STR 410, DI-4B (H=5.09', L=6'), Complete in place including excavation, bedding & backfill	EA	1		
84	STR 420, DI-4B (H=5.46', L=6'), Complete in place including excavation, bedding & backfill	EA	1		
85	STR 430, DI-4B (H=5.45', L=8'), Complete in place including excavation, bedding & backfill	EA	1		
86	STR 432, 30" ES-1 Including VDOT HR-1, Complete in place including excavation, bedding & backfill	EA	1		
87	STR 435, SWM FILTER 6'X15', Complete in place including excavation, bedding & backfill	EA	1		
88	STR 440, DI-3B (H=6.08', L=6'), Complete in place including excavation, bedding & backfill	EA	1		
89	STR 442, 24" ES-1 Including VDOT HR-1, Complete in place including excavation, bedding & backfill	EA	1		
90	STR 450, SWM FILTER 6'X15', Complete in place including excavation, bedding & backfill	EA	1		
91	STR 453, DI-3B (H=4.48', L=4'), Complete in place including excavation, bedding & backfill	EA	1		
92	STR 460, DI-3A (H=2.37'), Complete in place including excavation, bedding & backfill	EA	1		
93	STR 470, DI-3B (H=2.37', L=6'), Complete in place including excavation, bedding & backfill	EA	1		
94	STR 480, DI-3B (H=2.27', L=10'), Complete in place including excavation, bedding & backfill	EA	1		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
95	STR 455, MOD Shallow Curb Drop Inlet (H=3.77', L=10'), Complete in place including excavation, bedding & backfill	EA	1		
96	STR 500, 15" ES-1, Complete in place including excavation, bedding & backfill	EA	1		
97	STR 505, Std MH-2 (H=5.16'), Complete in place including excavation, bedding & backfill	EA	1		
98	STR 510, Replace Top with DI-3A, Complete in place including excavation & backfill	EA	1		
99	STR 520, Replace Top with DI-3C (6' THT), Complete in place including excavation & backfill	EA	1		
100	STR 530, Replace Top with DI-3A, Complete in place including excavation & backfill	EA	1		
101	STR 540, DI-3A (H=3.48'), Complete in place including excavation, bedding & backfill	EA	1		
102	STR 632, 15" ES-1, Complete in place including excavation, bedding & backfill	EA	1		
103	STR 633, 15" ES-1, Complete in place including excavation, bedding & backfill	EA	1		
104	STR 634, 15" ES-1, Complete in place including excavation, bedding & backfill	EA	1		
105	STR 635, 15" ES-1, Complete in place including excavation, bedding & backfill	EA	1		
106	STR 636, 15" ES-1, Complete in place including excavation, bedding & backfill	EA	1		
107	STR 637, 15" ES-1, Complete in place including excavation, bedding & backfill	EA	1		
108	STR 720, Replace MH with DI-3A and Raise Top, Complete in place including excavation & backfill	EA	1		
109	STR 722, DI-3C (H=8.38', L=6'), Complete in place including excavation, bedding & backfill	EA	1		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
110	STR 322, Replace MH with DI-3B (6' THT) and Raise Top, Complete in place including excavation & backfill	EA	1		
111	STR 727, DI-3C (H=6.92', L=6'), Complete in place including excavation, bedding & backfill	EA	1		
112	STR 730, Replace MH with DI-3A and Raise Top, Complete in place including excavation & backfill	EA	1		
113	STR 735, DI-3C (H=7.32', L=6') Including connection of pipes at each end of structure, Complete in place including excavation, bedding & backfill	EA	1		
114	STR 740, Replace MH with DI-3B (6' THT) and Raise Top, Complete in place including excavation & backfill	EA	1		
115	STR 750, Std MH-2 (H=6.46'), Complete in place including excavation, bedding & backfill	EA	1		
116	STR 760, 24" ES-1 Including VDOT HR-1, Complete in place including excavation, bedding & backfill	EA	1		
117	STR 770, 19"x30" ES-1A, Complete in place including excavation, bedding & backfill	EA	1		
118	STR 780, 19"x30" ES-1A, Complete in place including excavation, bedding & backfill	EA	1		
119	STR 810, 15" ES-1, Complete in place including excavation, bedding & backfill	EA	1		
120	STR 820, DI-3A (H=8.59'), Complete in place including excavation, bedding & backfill	EA	1		
121	STR 830, DI-3BB (H=8.10', L=4'), Complete in place including excavation, bedding & backfill	EA	1		
122	STR 840, DI-3B (H=5.65', L=6'), Complete in place including excavation, bedding & backfill	EA	1		
123	STR 810, 15" ES-1, Complete in place including excavation, bedding & backfill	LS	1		
124	Tie-in to Existing STR 340, Complete in place including excavation, bedding & backfill	LS	1		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
125	Fill above steel casing pipe with VDOT #57 Stone (between STR 530 & 540), Complete in place including excavation, bedding, concrete & backfill	TN	75		
126	Underdrain UD-4, Complete in place including excavation, fabric, bedding, tie-in & backfill	LF	5,280		
127	Modified Underdrain UD-4, Complete in place including excavation, fabric, bedding, tie-in & backfill	LF	8,350		
	Sub-Total Storm Sewer				
	Pavement				
128	Cement Treated Aggregate Base, VDOT 21-A with 4% Hydraulic Cement, Complete in Place incl. fine grading & curing	TN	2,550		
129	Aggregate Base, VDOT 21-B, Complete in Place incl. fine grading	TN	7,800		
130	Base Asphalt Mix, BM-25.0A	TN	6,200		
131	Intermediate Asphalt Mix, IM-19.0A	TN	1,825		
132	Surface Asphalt Mix, SM-9.5D	TN	1,750		
133	Milling of Asphalt Pavement (Min. 2")	SY	19,600		
134	Resurface Milled Area with Surface Mix, SM 9.5D	TN	2,400		
135	Additional Base Asphalt BM-25.0A for Pipe Trench	TN	150		
136	Additional Intermediate Asphalt IM-19.0A for Pipe Trench	TN	125		
137	10' Asphalt Shared Use Path, Complete in place including excavation, (6") VDOT 21-B & (2") SM-9.5A Asphalt	LF	3,630		
138	2' Paved Shoulder Complete Including Excavation and (2" SM-9.5D + 2" IM-19.0 + 4" 21-B Min.)	LF	750		
139	8' Shoulder Complete Including Excavation and (4" 21-A & 4" 21-B).	LF	750		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
140	4' Concrete Side walk, Complete in place incl. excavation, VDOT 21-A & Concrete	LF	30		
141	5' Concrete Side walk, Complete in place incl. excavation, VDOT 21-A & Concrete	LF	50		
142	Brick Pavers per plan details, Complete in place incl. excavation, VDOT 21-A & Sand	SF	1,150		
143	Curb & Gutter - CG6, Complete in place incl. excavation, stone under curb & backfill	LF	6,955		
144	Curb & Gutter - CG7, Complete in place incl. excavation, stone under curb & backfill	LF	380		
145	Median Strip MS-1A, Complete in place incl. excavation, stone base & Backfill	SY	170		
146	Median Strip MS-2 (CG-2), Complete in place incl. excavation, stone base & backfill	LF	5,720		
147	Median Strip MS-2 (CG-3), Complete in place incl. excavation, stone base & backfill	LF	2,100		
148	Median Strip MS-2 (MOD CG-3), Complete in place incl. excavation, stone base & backfill	LF	90		
149	CG-12A, Handicap Ramp, Complete in place incl. excavation, stone base & backfill	EA	9		
150	CG-11 Connection for Street Intersection and Commercial Entrance, Complete in place	LF	100		
	Sub-Total Pavement				
	Pavement Marking / Signs				
151	Single Solid 5" White line Type B CL I	LF	3,700		
152	Single Solid 6" White line Type B CL I	LF	1,550		
153	Single Dashed 5" White Line Type B CL I (10' long, 30' Skips)	LF	1,600		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
154	Single Dashed / Dotted 5" White Line Type B CL I (2' long, 4' space)	LF	500		
155	24" Wide White Line (Stop Bar) Type B CL I	LF	435		
156	Double Solid 5" Yellow Line with 4" Spacing Type B CL I	LF	470		
157	Single Solid 5" Yellow Line Type B CL I	LF	8,990		
158	24" Wide White Line Pedestrian Crossing Type B CL I	LF	1,260		
159	Wide Diagonal Yellow Line 2' @ 45 degree with 12' space (1st line to be 3' wide on each end)	LF	270		
160	Pavement Message Mark "Elongated Arrow"	EA	30		
161	Pavement Message Mark "ONLY" Solid White 6' Long Type B CL I	EA	7		
162	Sign W3-5 (36"x36") Diamond Grade - Prismatic Lens, Reflective Sheeting, Complete incl. 2x2, 14 Gauge Galv Steel Post (per DCSM TS-5)	EA	1		
163	Sign W4-2 (36"x36") Diamond Grade - Prismatic Lens, Reflective Sheeting, Complete incl. 2x2, 14 Gauge Galv Steel Post (per DCSM TS-5)	EA	3		
164	Sign W6-3 (36"x36") Diamond Grade - Prismatic Lens, Reflective Sheeting, Complete incl. 2x2, 14 Gauge Galv Steel Post (per DCSM TS-5)	EA	1		
165	Sign R2-1 (30"X36") Diamond Grade - Prismatic Lens, Reflective Sheeting, Complete incl. 2x2, 14 Gauge Galv Steel Post (per DCSM TS-5)	EA	2		
166	Sign W9-11 (36"X36") Diamond Grade - Prismatic Lens, Reflective Sheeting, Complete incl. 2x2, 14 Gauge Galv Steel Post (per DCSM TS-5)	EA	1		
167	Sign W9-2 (36"X36") Diamond Grade - Prismatic Lens, Reflective Sheeting, Complete incl. 2x2, 14 Gauge Galv Steel Post (per DCSM TS-5)	EA	2		
168	Sign R3-4 (24"X24") Diamond Grade - Prismatic Lens, Reflective Sheeting, Complete incl. 2x2, 14 Gauge Galv Steel Post (per DCSM TS-5)	EA	1		
169	Sign R4-7 (24"X30") Diamond Grade - prismatic Lens, Reflective Sheeting, Complete incl. 2x2, 14 Gauge Galv Steel Post (per DCSM TS-5)	EA	8		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
170	Sign R6-1 (36"x12") Diamond Grade - Prismatic Lens, Reflective Sheeting, Complete incl. 2x2, 14 Gauge Galv Steel Post (per DCSM TS-5)	EA	3		
	Sub-Total Pavement Marking / Signs				
	Traffic Signal				
	I- MASONS LANE				
171	3" PVC Conduit, Complete in place incl. excavation, bedding & backfill	LF	2,200		
172	4" PVC Conduit, Complete in place incl. excavation, bedding & backfill	LF	130		
173	4" PVC Conduit BORED, Complete in place.	LF	110		
174	14/2C (S) Conductor Cable Shielded	LF	1,800		
175	14/2C Conductor Cable	LF	800		
176	14/4C Conductor Cable	LF	500		
177	14/7C Conductor Cable	LF	1,000		
178	14/1 Enclosed Conductor Cable	LF	4,800		
179	1310 NM Fiber Optic Cable (Min. 6 Fibers)	LF	2,200		
180	Fiber Optic Termination and Testing	LS	1		
181	OPTICOM Cable GTT 134	LF	800		
182	Video control cable-16/3 power & 8281 Belden coax	LF	500		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
183	CAT 5e cable & 18/2C	LF	175		
184	PTZ-Cisco 6930 series, per plans and specifications	EA	1		
185	KUSA Managed Gigabit Ethernet switch per plans and specifications	EA	4		
186	Etherwan SE6101-00B media converter per plans and specifications	EA	3		
187	4 Port Encoder-Cisco per plans and specifications	EA	1		
188	Video Detection Cameras, complete incl. installation as per plans and specifications	EA	1		
189	Video Detection processor shall be card rack mountable, equivalent or equal to PEEK VideoTrak IQ currently in use in the Town traffic signal system with 4 video inputs, monitor and mouse, IP addressable with all communication cabling for remote access, video cameras shall be from same manufacture.	EA	1		
190	Junction Box, JB - R1, Complete in place as per plans and specifications	EA	10		
191	Adjust Existing Junction Box to Grade, Complete in place	EA	3		
192	Signal Pole (A) - Relocate Existing Mast Arm Pole to New Foundation, Remove Existing PH 6 Signal Equipment, Cut Cap Mast Arm as Directed by Town Engineer.	EA	1		
193	Signal Pole (B) - One 45' Mast Arm, Complete as per plans and specifications	EA	1		
194	Traffic Signal head Section 12" LED, Complete as per plans and specifications	EA	6		
195	Concrete Foundation Signal Pole, Incl. excavation, backfill and all incidentals	EA	2		
196	Modify Cabinet Controller to Provide the Intended Operation Shown in the Phasing Diagram	LS	1		
197	<u>Temporary Signal Including but not limited to :</u> Relocate Signals as needed and Install temporary detection as needed for north bound and south bound signals as part of MOT Phase III traffic switch.	LS	1		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
198	Relocate Existing Signs S-4, S-7 & S-9	EA	3		
199	Mast Arm Mounted Sign S-1, Diamond Grade - prismatic Lens, Reflective Sheeting, Complete incl. installation	EA	1		
200	Relocate Existing Street Name Sign & EVP Detectors as Directed by Town Engineer	EA	1		
201	Adjust Existing Signal Heads	EA	3		
202	Saw Cut Asphalt for Loop Detectors	LF	2,000		
	II- GREENWAY DRIVE				
203	3" PVC Conduit, Complete in place incl. excavation, bedding & backfill	LF	1,900		
204	14/2C (S) Conductor Cable Shielded	LF	3,700		
205	14/2C Conductor Cable	LF	500		
206	14/4C Conductor Cable	LF	500		
207	14/7C Conductor Cable	LF	550		
208	14/1 Enclosed Conductor Cable	LF	4,500		
209	1310 NM Fiber Optic Cable (Min. 6 Fibers)	LF	1,800		
210	Video Detection cable-16/3 power & 8281 Belden coax	LF	600		
211	CAT 5e cable & 18/2C	LF	100		
212	PTZ-Cisco 6930 series, per plans and specifications	EA	1		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
213	PTZ installation to include all mounting hardware installed per plans	LS	1		
214	KUSA Managed Gigabit Ethernet switch per plans and specifications	EA	4		
215	Etherwan SE6101-00B media converter per plans and specifications	EA	3		
216	4 Port Encoder-Cisco per plans and specifications	EA	1		
217	Fiber Optic Termination and Testing	LS	1		
218	Video Detection Cameras, complete incl. installation as per plans and specifications	EA	2		
219	Video Detection processor shall be card rack mountable, equivalent or equal to PEEK VideoTrak IQ currently in use in the Town traffic signal system with 4 video inputs, monitor and mouse, IP addressable with all communication cabling for remote access, video cameras shall be from same manufacture.	EA	1		
220	Junction Box, JB - R1, Complete in place as per plans and specifications	EA	8		
221	Relocate Existing Pedestrian Pole & Equipment Complete as per plans and specifications	EA	1		
222	Remove & Dispose of Existing Pedestrian Pole Foundation	EA	1		
223	Traffic Signal head Section 12" LED, Complete as per plans and specifications	EA	5		
224	Saw Cut Asphalt for Loop Detectors	LF	2,000		
III- BATTLEFIELD PKWY / MEADDE DRIVE					
225	1" Metal Conduit, Complete in place incl. excavation, bedding & backfill	LF	760		
226	1 1/4" Metal Conduit, Complete in place incl. excavation, bedding & backfill	LF	20		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
227	2" PVC Conduit, Complete in place incl. excavation, bedding & backfill	LF	25		
228	3" PVC Conduit, Complete in place incl. excavation, bedding & backfill	LF	1,980		
229	4" PVC Conduit, Complete in place incl. excavation, bedding & backfill	LF	560		
230	4" PVC Conduit BORED, Complete in place.	LF	840		
231	14/2C (S) Conductor Cable Shielded	LF	9,395		
232	14/2C Conductor Cable	LF	4,325		
233	14/4C Conductor Cable	LF	1,000		
234	14/7C Conductor Cable	LF	5,020		
235	14/1 Enclosed Conductor Cable	LF	8,500		
236	Video control cable-16/3 power & 8281 Belden coax	LF	1,215		
237	CAT 5e cable & 18/2C	LF	85		
238	1310 NM Fiber Optic Cable (Min. 6 Fibers)	LF	500		
239	#6 AWG/3C	LF	1,510		
240	PRE-EMPTION Detector Cable	LF	1,950		
241	Loop Detector Amplifier Complete installed as per plans & specifications	EA	16		
242	OPTICOM Detector Eye, complete incl. installation as per plans and specifications	EA	5		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
243	Video Detection Cameras, complete incl. installation as per plans and specifications	EA	4		
244	Video Detection processor shall be card rack mountable, equivalent or equal to PEEK VideoTrak IQ currently in use in the Town traffic signal system with 4 video inputs, monitor and mouse, IP addressable with all communication cabling for remote access, video cameras shall be from same manufacture.	EA	1		
245	PTZ-Cisco 6930 series, per plans and specifications	EA	1		
246	KUSA Managed Gigabit Ethernet switch per plans and specifications	EA	4		
247	Etherwan SE6101-00B media converter per plans and specifications	EA	3		
248	4 Port Encoder-Cisco per plans and specifications	EA	1		
249	Fiber Optic Termination and Testing	LS	1		
250	PTZ installation to include all mounting hardware installed per plans	LS	1		
251	Junction Box, JB - R1, Complete in place as per plans and specifications	EA	26		
252	Junction Box, JB - R2, Complete in place as per plans and specifications	EA	1		
253	Signal Pole (1) - 75' Mast Arm, Complete as per plans and specifications	EA	1		
254	Signal Pole (2) - 70' Mast Arm, Complete as per plans and specifications	EA	1		
255	Signal Pole (3) - 65' Mast Arm, Complete as per plans and specifications	EA	2		
256	Pedestrian Pole (B) & (C) Complete as per plans and specifications	EA	6		
257	Pedestrian Signal Head, Complete as per plans and specifications	EA	8		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
258	Pedestrian Push Button with Sign R10-3E, Complete as per plans and specifications	EA	8		
259	Traffic Signal head Section 12" LED, Complete as per plans and specifications	EA	45		
260	Concrete Foundation Signal Pole, Incl. excavation, backfill and all incidentals	EA	4		
261	Concrete Foundation pedestal Pole, Incl. excavation, backfill and all incidentals	EA	6		
262	TS2 type controller and MMU per plans and specifications	EA	1		
263	Traffic Signal Cabinet, complete in place incl. concrete foundation and equipment as per plans & specifications	LS	1		
264	Provide Power Source SE-5 (Meter / Disconnect Switch Pole), complete as per plans and specifications	LS	1		
265	<u>Temporary Signal (1) Including but not limited to :</u> Relocate Existing Pole Out of Construction Limits, Relocate Side Street Signals and Install Temporary Detection (Video) for north bound and south bound.	LS	1		
266	<u>Temporary Signal (2) Including but not limited to :</u> Shift Signals to Coincide with Phase III Traffic Switch, Realign Video Detection and north bound and south bound Signals.	LS	1		
267	Mast Arm Mounted Sign S-1 R3-5R (30"X36"), Diamond Grade - prismatic Lens, Reflective Sheeting, Complete incl. installation	EA	3		
268	Mast Arm Mounted Sign S-2 R3-6R (30"X36"), Diamond Grade - prismatic Lens, Reflective Sheeting, Complete incl. installation	EA	1		
269	Mast Arm Mounted Sign S-3 R10-3e(L) (9"X15"), Diamond Grade - prismatic Lens, Reflective Sheeting, Complete incl. installation	EA	4		
270	Mast Arm Mounted Sign S-4 R10-3e(R) (9"X15"), Diamond Grade - prismatic Lens, Reflective Sheeting, Complete incl. installation	EA	4		
271	Mast Arm Mounted Sign S-5 (18"X72"), Diamond Grade - prismatic Lens, Reflective Sheeting, Complete incl. installation	EA	2		
272	Mast Arm Mounted Sign S-6 (30"X144"), Diamond Grade - prismatic Lens, Reflective Sheeting, Complete incl. installation	EA	1		

Ref.	DESCRIPTION	Units	Qty.	Unit Price	Extension
273	Mast Arm Mounted Sign S-7 (30"X144"), Diamond Grade - prismatic Lens, Reflective Sheeting, Complete incl. installation	EA	1		
274	Mast Arm Mounted Sign S-8 R10-12 (30"X36"), Diamond Grade - prismatic Lens, Reflective Sheeting, Complete incl. installation	EA	3		
275	Saw Cut Asphalt for Loop Detectors	LF	4,200		
	Sub-Total Traffic Signal				
	Earthwork				
276	Unclassified Excavation (including but not limited to Asphalt & Concrete)	CY	14,100		
277	Unclassified Excavation to haul off-site	CY	1,500		
278	Undercut unsuitable and REPLACE with select material type I Min. CBR 30	CY	500		
279	Undercut Rock (6") & Backfill with VDOT 21-B	CY	300		
280	4% Lime treatment for top 1' of subgrade layer in accordance with VDOT guidelines for moisture control /stabilization (IF REQUIRED - to be used at the direction of the Town)	SY	3,000		
281	Rock Excavation	CY	1,500		
282	Respread Topsoil (other than Median)	CY	3,000		
283	2" Topsoil Class 'A' for Median, Complete incl. Supply and Spreading	CY	1,000		
	Sub-Total Earthwork				
	TOTAL				

ESCROW OF RETAINED FUNDS

In accordance with Section 2.2-4334 of the Virginia Public Procurement Act (VPPA), any Contract valued at \$200,000.00 or more for construction of highways, roads, streets, bridges, parking lots, demolition, clearing, grading, excavating, paving, pile driving miscellaneous drainage structures, and the installation of water, gas, sewer lines and pumping stations where portions of the Contract price are to be retained, at the time of submitting a bid, the CONTRACTOR shall have the option to indicate preference for using the escrow account procedure for utilization of the Town retained funds by so indicating in the space provided in the proposal documents. In the event the successful Contract elects to use the escrow account procedure, the "Escrow Agreement" included in the Contract documents shall be executed and submitted to the Director, Department of Capital Projects Management within 15 days after receipt of the Notice to Award. If the "Escrow Agreement" form is not submitted, the CONTRACTOR shall forfeit his rights to the use of the escrow account procedure within the 15-day period.

In order to have retained funds paid to an escrow agent, the CONTRACTOR, the escrow agent, and the surety shall execute the "Escrow Agreement" furnished by the TOWN, and submit same to the Department of Capital Projects Management for approval. The CONTRACTOR's escrow agent shall be a trust company, approved bank or savings and loan institution with its principal office located in the Commonwealth of Virginia. The "Escrow Agreement" shall contain the complete address of the escrow agent and surety, and the executed "Escrow Agreement" will be authority for the TOWN to make payment of retained funds to the escrow agent. After approving the agreement, the TOWN will pay to the escrow agent the funds retained as provided herein, except that funds retained for lack of progress or other deficiencies on the part of the CONTRACTOR will not be paid to the escrow agent. The escrow agent may, in accordance with the stipulations contained in the "Escrow Agreement", invest the funds paid into the escrow account and pay earnings on such investments to the CONTRACTOR, or release the funds to the CONTRACTOR, provided such funds are fully secured by approved securities.

Retained funds invested, and securities held as collateral for retainage may be released only as and when directed by the Director, Department of Capital Projects Management. When the final estimate is released for payment, the Director, Department of Capital Projects Management will direct the escrow agent to settle the escrow amount by paying the CONTRACTOR or the TOWN monies due them as determined by the Director, Department of Capital Projects Management. The TOWN reserves the right to recall retained funds and to release same to the surety upon receipt of written request from the CONTRACTOR or in the event of default.

- () We elect to use the escrow account procedure for the deposit of retained funds.

- () We elect not to use the escrow account procedure for the deposit of retained funds.

END OF SECTION

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

--DO NOT DETACH--

**THIS INFORMATION MUST BE SUBMITTED
WITHIN 2 DAYS AFTER BID OPENING IF YOUR
BID DOES NOT MEET THE PROJECT DBE
REQUIREMENTS, OR
WHEN REQUESTED BY VDOT**

CONTRACT I.D. NUMBER _____

PROJECT NUMBER _____

FHWA NUMBER _____

DISTRICT _____

DATE BID SUBMITTED _____

BIDDER'S NAME _____

SIGNATURE _____

TITLE _____

VENDOR NUMBER _____

DBE GOAL FROM BID PROPOSAL _____

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

NAMES OF CERTIFIED DBEs AND THE DATES ON WHICH THEY WERE SOLICITED TO BID ON THIS PROJECT

INCLUDE THE ITEMS OF WORK OFFERED AND THE DATES AND METHODS USED FOR FOLLOWING UP INITIAL SOLICITATIONS TO DETERMINE WHETHER OR NOT DBEs WERE INTERESTED.

NAMES AND VENDOR NUMBERS OF DBEs SOLICITED	DATE OF INITIAL SOLICITATION	ITEM(S) OF WORK	FOLLOW-UP METHODS AND DATES

NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY

ATTACH COPIES OF SOLICITATIONS, TELEPHONE RECORDS, FAX CONFIRMATIONS, ELECTRONIC INFORMATION, ETC.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

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THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

TELEPHONE LOG

DBE(s) CALLED	TELEPHONE NUMBER	DATE CALLED	TIME CALLED	CONTACT PERSON OR VOICE MAIL STATUS

NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

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THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

ITEM(S) OF WORK THAT THE BIDDER MADE AVAILABLE TO DBE FIRMS

IDENTIFY THOSE ITEM(S) OF WORK THAT THE BIDDER MADE AVAILABLE TO DBE FIRMS OR THOSE ITEM(S) THE BIDDER IDENTIFIED AND DETERMINED TO SUBDIVIDE INTO ECONOMICALLY FEASIBLE UNITS TO FACILITATE DBE PARTICIPATION. FOR EACH ITEM LISTED, SHOW THE DOLLAR VALUE AND PERCENTAGE OF THE TOTAL CONTRACT AMOUNT. IT IS THE BIDDER'S RESPONSIBILITY TO DEMONSTRATE THAT SUFFICIENT WORK TO MEET THE GOAL WAS MADE AVAILABLE TO DBE FIRMS.

ITEM(S) OF WORK MADE AVAILABLE	BIDDER NORMALLY PERFORMS ITEM(S) (Y/N)	ITEM(S) BROKEN DOWN TO FACILITATE PARTICIPATION (Y/N)	AMOUNT IN DOLLARS	PERCENTAGE OF CONTRACT

**NOTE: INFORMATION REQUIRED FOR THIS SECTION CONTINUED ON SHEET 5
ATTACH ADDITIONAL PAGES IF NECESSARY**

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

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THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

**ADDITIONAL INFORMATION REGARDING ITEM(S) OF WORK THAT THE
BIDDER MADE AVAILABLE TO DBE FIRMS** (Continued From Sheet 4)

ITEM(S) OF WORK MADE AVAILABLE, NAMES OF SELECTED FIRMS AND DBE STATUS, DBEs THAT PROVIDED QUOTES, PRICE QUOTE FOR EACH FIRM, AND THE PRICE DIFFERENCE FOR EACH DBE IF THE SELECTED FIRM IS NOT A DBE.

ITEM(S) OF WORK MADE AVAILABLE(CONT.)	NAME OF SELECTED FIRM AND VENDOR NUMBER	DBE OR NON-DBE	NAME OF REJECTED FIRM(S)	QUOTE IN DOLLARS	PRICE DIFFERENCE IN DOLLARS

NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY.

IF THE FIRM SELECTED FOR THE ITEM IS NOT A DBE, PROVIDE THE REASON(S) FOR THE SELECTION ON A SEPARATE PAGE AND ATTACH.

PROVIDE NAMES, ADDRESSES, AND TELEPHONE NUMBERS FOR THE FIRMS LISTED ABOVE.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

ADVERTISEMENTS OR PROOFS OF PUBLICATION.

NAMES AND DATES OF EACH PUBLICATION IN WHICH A REQUEST FOR DBE PARTICIPATION FOR THE PROJECT WAS PLACED BY THE BIDDER. ATTACH COPIES OF PUBLISHED ADVERTISEMENTS OR PROOFS OF PUBLICATION.

PUBLICATIONS	DATES OF ADVERTISEMENT

NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

NAMES OF AGENCIES CONTACTED TO PROVIDE ASSISTANCE

NAMES OF AGENCIES (SEE SPECIAL PROVISION FOR 107.15) AND THE DATES THESE AGENCIES WERE CONTACTED TO PROVIDE ASSISTANCE IN CONTACTING, RECRUITING, AND USING DBE FIRMS. IF THE AGENCIES WERE CONTACTED IN WRITING, ATTACH COPIES OF SUPPORTING DOCUMENTS.

NAME OF AGENCY	METHOD AND DATE OF CONTACT	RESULTS

NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

TECHNICAL ASSISTANCE AND INFORMATION PROVIDED TO DBEs

EFFORTS MADE TO PROVIDE INTERESTED DBEs WITH ADEQUATE INFORMATION ABOUT THE PLANS, SPECIFICATIONS, AND REQUIREMENTS OF THE BID DOCUMENTS TO ASSIST THE DBEs IN RESPONDING TO A SOLICITATION.

IDENTIFY THE DBEs ASSISTED, THE INFORMATION PROVIDED, AND THE DATE OF CONTACT. ATTACH COPIES OF SUPPORTING DOCUMENTS.

DBEs ASSISTED	INFORMATION PROVIDED	DATE OF CONTACT

NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

EFFORTS MADE TO ASSIST DBEs OBTAIN BONDING, LINES OF CREDIT, INSURANCE, ETC.

EFFORTS MADE TO PROVIDE INTERESTED DBEs IN OBTAINING BONDING, LINES OF CREDIT, INSURANCE, NECESSARY EQUIPMENT, SUPPLIES, MATERIALS, OR RELATED ASSISTANCE OR SERVICES, EXCLUDING SUPPLIES AND EQUIPMENT THE SUBCONTRACTOR PURCHASES OR LEASES FROM THE PRIME CONTRACTOR OR ITS AFFILIATES.

IDENTIFY THE DBEs ASSISTED, THE ASSISTANCE OFFERED, AND THE DATES OF SERVICES OFFERED AND PROVIDED. ATTACH COPIES OF SUPPORTING DOCUMENTS.

DBEs ASSISTED	ASSISTANCE OFFERED	DATES SERVICES OFFERED AND/OR PROVIDED

NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY.

ORDER NO.:
CONTRACT ID. NO.:

Form C-104
Rev. 7-13-05

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

PROJECT:

FHWA:

This form must be completed, signed and returned with bid; and failure to do so may result in the rejection of your bid. **THE CONTRACTOR SHALL AFFIRM THE FOLLOWING STATEMENT EITHER BY SIGNING THE AFFIDAVIT AND HAVING IT NOTARIZED OR BY SIGNING THE UNSWORN DECLARATION UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE UNITED STATES.** A SEPARATE FORM MUST BE SUBMITTED BY EACH PRINCIPAL OF A JOINT VENTURE BID.

STATEMENT. In preparation and submission of this bid, I, the firm, corporation or officers, agents or employees thereof did not, either directly or indirectly, enter into any combination or arrangement with any persons, firm or corporation or enter into any agreement, participate in any collusion, or otherwise take any action in the restraint of free, competitive bidding in violation of the Sherman Act (15 U.S.C. Section 1) or Article 1.1 or Chapter 12 of Title 18.2 (Virginia Governmental Frauds Act), Sections 59.1-9.1 through 59.1-9.17 or Sections 59.1-68.6 through 59.1-68.8 of the Code of Virginia.

AFFIDAVIT

The undersigned is duly authorized by the bidder to make the foregoing statement to be filed with bids submitted on behalf of the bidder for contracts to be let by the Commonwealth Transportation Board.

Signed at _____, this ____ day of _____, 20 ____
County (City), STATE

(Name of Firm) By: _____ Title (print)
(Signature)

STATE of _____ COUNTY (CITY) of _____

To-wit:

I _____, a Notary Public in and for the State and
County(City) aforesaid, hereby certify that this day _____

personally appeared before me and made oath that he is duly authorized to make the above statements and that such statements are true and correct.

Subscribed and sworn to before me this _____ day of _____, 20 ____
My Commission expires _____

Notary Public

OR
UNSWORN DECLARATION

The undersigned is duly authorized by the bidder to make the foregoing statement to be filed with bids submitted on behalf of the bidder for contracts to be let by the Commonwealth Transportation Board.

Signed at _____, this ____ day of _____, 20 ____
County (City), STATE

(Name of Firm) By: _____ Title (print)
(Signature)

ORDER NO.:
CONTRACT ID. NO.:

Form C-105
Rev. 7-13-05

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
AFFIDAVIT

PROJECT:

FHWA:

This form must be completed, signed, notarized and returned with bid; and failure to do so, may result in the rejection of your bid. A separate form must be submitted by each principal of a joint venture bid.

1. I, the firm, corporation or officers, agents or employees thereof have neither directly nor indirectly entered into any combination or arrangement with any person, firm or corporation or entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such contract, the effect of which is to prevent competition or increase the cost of construction or maintenance of roads or bridges.

During the preceding twelve months, I (we) have been a member of the following Highway Contractor's Associations, as defined in Section 33.1-336 of the Code of Virginia (1970). (If none, so state).

NAME	Location of Principal Office
_____	_____
_____	_____
_____	_____

2. I (we) have _____, have not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that I/We have _____, have not _____, filed with the joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor [41 CFR 60-1.7(b)(1)], and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contract or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contract and subcontract unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

(Continued)

ORDER NO.:
CONTRACT ID. NO.:

Form C-105
page 2

3. The bidder certifies to the best of its knowledge and belief, that it and its principals:
- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any Federal department or agency;
 - (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offence in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated above; and
 - (d) Where the bidders is unable to certify to any of the statements in this certification, the bidder shall show an explanation below.

Explanations will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any explanation noted, indicate below to whom it applies, initiating agency, and dates of action. Providing false information may result in federal criminal prosecution or administration sanctions. The bidder shall provide immediate written notice to the Department if at any time the bidder learns that its certification was erroneous when submitted or has become erroneous by reason of change circumstances.

The undersigned is duly authorized by the bidder to make the foregoing statements to be filed with bids submitted on behalf of the bidder for contracts to be let by the Commonwealth Transportation Board.

Signed at _____, this ____ day of _____, 20 ____
County (City), STATE

By: _____
(Name of Firm) (Signature) Title (print)

STATE of _____ COUNTY (CITY) of _____

To-wit:

I _____, a Notary Public in and for the State and
County(City) aforesaid, hereby certify that this day _____

personally appeared before me and made oath that he is duly authorized to make the above statements and that such statements are true and correct.

Subscribed and sworn to before me this _____ day of _____, 20 ____

My Commission expires _____

Notary Public

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
MINIMUM DBE REQUIREMENTS**

PROJECT NO. _____

FHWA NO. _____

***** INSTRUCTIONS *****

THIS FORM CAN BE USED BY THE CONTRACTOR TO SUBMIT THE NAMES OF DBE FIRMS TO BE UTILIZED ON THE PROJECT. THE CONTRACTOR SHALL INDICATE THE DESCRIPTION OF THE CATEGORY (S, M, SP or H) AND THE TYPE OF WORK THAT EACH DBE WILL PERFORM AND THE ALLOWABLE CREDIT PER ITEM(S). ADDITIONAL SHEETS TO SHOW THE ALLOWABLE CREDIT PER ITEM MAY BE ATTACHED IF NECESSARY. **PLEASE NOTE:** THE AMOUNT OF ALLOWABLE CREDIT FOR A DBE SUPPLIER IS 60% OF THE TOTAL COST OF THE MATERIALS OR SUPPLIES OBTAINED AND 100% FOR A DBE MANUFACTURER OF THE MATERIALS AND SUPPLIES OBTAINED. A CONTRACTOR MAY COUNT 100% OF THE FEES PAID TO A DBE HAULER FOR THE DELIVERY OF MATERIALS AND SUPPLIES TO THE PROJECT SITE, BUT NOT FOR THE COST OF THE MATERIALS AND SUPPLIES THEMSELVES.

DBE REQUIREMENT _____ %

PERCENT ATTAINED BY BIDDER _____ %

NAMES(S) AND CERTIFICATION NO. OF DBE(S) TO BE USED	USED AS SUBCONTR. (S) MFG. (M) SUPPLIER (SP) HAULER (H)	TYPE OF WORK AND ITEM NO(S)	\$ AMOUNT OF ALLOWABLE CREDIT PER ITEM
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
TOTAL			\$ _____

TOTAL CONTRACT VALUE \$ _____ x REQUIRED DBE _____ % = \$ _____

I/WE CERTIFY THAT THE PROPOSED DBE(S) SUBMITTED WILL BE USED ON THIS CONTRACT AS STATED HEREON AND ASSURE THAT DURING THE LIFE OF THE CONTRACT. I/WE WILL MEET OR EXCEED THE PARTICIPATION ESTABLISHED HEREON BY THE DEPARTMENT.

_____ BY _____
BIDDER SIGNATURE

_____ BY _____
TITLE DATE

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
CERTIFICATION OF BINDING AGREEMENT
WITH
DISADVANTAGED BUSINESS ENTERPRISE FIRMS**

Project No.:

Federal Project No.:

This form is to be submitted in accordance with the Department's Special Provision for Section 107.15.

It is hereby certified by the below signed Contractors that there exists a written quote, acceptable to the parties involved preliminary to a binding subcontract agreement stating the details concerning the work to be performed and the price which will be paid for the aforementioned work. This document is not intended to, nor should it be construed to, contain the entire text of the agreement between the contracting parties. This document does not take the place of, nor may it be substituted for, an official subcontracting agreement in those situations that may require such an agreement. A copy of the fully executed *subcontract agreement* shall be submitted to the Engineer within fourteen (14) business days after contract execution.

It is further certified that the aforementioned mutually acceptable quote and fully executed subcontract agreement represent the entire agreement between the parties involved and that no conversations, verbal agreements, or other forms of non-written representations shall serve to add to, delete, or modify the terms as stated.

The prime Contractor further represents that the aforementioned mutually acceptable quote and fully executed subcontract agreement shall remain on file for a period of not less than one year following completion of the prime's contract with the Department or for such longer period as provisions of governing Federal or State law or regulations may require. For purposes of this form, the term Prime Contractor shall refer to any Contractor utilizing a DBE subcontractor, regardless of tier, in which they are claiming DBE credit toward the contract goal.

Contractors further jointly and severally represent that said binding agreement is for the performance of a "commercially useful function" as that term is employed in 49 C.F.R. Part 26.55 (c), (d).

**TO BE SIGNED BY THE SUBCONTRACTOR TO THE PRIME CONTRACTOR, AND ANY LOWER TIER
SUBCONTRACTORS HAVING A CONTRACT WITH THE BELOW NAMED DBE FIRM**

Prime Contractor _____

By: _____
Signature Title

Date: _____

First Tier
Subcontractor if
Applicable

By: _____
Signature Title

Date: _____

Second Tier
Subcontractor if
Applicable

By: _____
Signature Title

Date: _____

Third Tier
Subcontractor if
Applicable

By: _____
Signature Title

Date: _____

DBE Contractor

By: _____
Signature Title

Date: _____

BID BOND

BOND NO. _____

AMOUNT: \$ _____

KNOW ALL MEN BY THESE MEN PRESENTS, that _____ hereinafter called the PRINCIPAL, and _____ a corporation duly organized under the laws of the State of _____ having its principal place of business at _____ in the State of _____ and authorized to do business in the Commonwealth of Virginia, as SURETY, are held and firmly bound unto _____, as OWNER, hereinafter called the OBLIGEE, in the sum of _____ DOLLARS (\$ _____) for the payment for which we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS BOND IS SUCH THAT:

WHEREAS, the PRINCIPAL is herewith submitting his or its Bid Proposal for _____ said Bid Proposal, by reference thereto, being hereby made a part hereof.

NOW THEREFORE,

- (A) If the bid shall remain open for a period of not less than 90 days following opening of the bids and be rejected, or in the alternate,
- (B) If the bid shall remain open for a period of not less than 90 days following opening of the bids and be accepted and the PRINCIPAL shall execute and deliver a Contract in the form of Contract attached hereto (properly completed in accordance with the bid) and shall furnish a performance and payment deposit or surety bond for his faithful performance of the Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith,
- (C) THEN, this obligation shall be void; otherwise the same shall remain in force and effect, it being expressly understood and agreed that the liability of the SURETY for any and all claims hereunder shall, in no event, exceed the said amount of this obligation as herein stated. Provided, however, that in addition to the amount of this obligation as herein stated, the SURETY shall be liable for all costs and attorney's fees incurred by the OBLIGEE in enforcing the obligations hereunder.

The SURETY, for value received, hereby stipulates and agrees that the obligation of the

SURETY and its bond shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such bid; and the SURETY does hereby waive notice of such extension.

IN WITNESS WHEREOF, the PRINCIPAL and the SURETY have hereunto set their hands and seals, and have executed this instrument and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Signed and sealed this _____ day of _____, 20_____ .

PRINCIPAL

By _____

SURETY

By _____
Attorney-In-Fact

IMPORTANT: The SURETY executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the Commonwealth of Virginia.

END OF SECTION

AGREEMENT

THIS AGREEMENT, dated this _____ day of _____, 20____ is between the Town of Leesburg (hereinafter called TOWN or Owner) and _____ (hereinafter called CONTRACTOR). TOWN AND CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

1. **WORK**

- 1.1 The project's name is _____, project # _____.
- 1.2 CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

The project includes construction survey, erosion & sedimentation controls, excavation, embankment, storm sewer, waterline, sanitary sewer, maintenance of traffic, curb, gutter, sidewalk, paving, miscellaneous site work, and all incidentals related thereto.

2. **OWNER'S REPRESENTATIVES**

- 2.1 All references to the Owner's Chief Contracting Officer shall mean:_____.
- 2.2 All references to the Owner's Project Manager shall mean:_____.
- 2.3 The Project is designed by_____. All references to ENGINEER within the Contract Documents mean:_____.

3. **CONTRACT TIME AND LIQUIDATED DAMAGES**

3.1.1 Time of the Essence

- A. All time limits for Interim Completion, Milestones, Substantial Completion, and Final Completion as stated in the Contract Documents are of the essence of the Contract.
- B. Contract Time:

- a. The Work to be performed under this Contract shall be commenced after issuance of the Notice to Proceed and Substantial Completion shall be achieved within 540 calendar days.
- b. Final Completion shall be achieved within 570 calendar days.
- c. [Insert Interim or Milestone dates as appropriate.]

3.2 Liquidated Damages

- A. TOWN and CONTRACTOR recognize that time is of the essence of this Agreement and the TOWN will suffer financial loss if the Work is not completed within the time specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with the General Conditions, Article 8, "TIME." Contractor recognizes the delays, expense, and difficulties involved in proving in a legal or other dispute resolution proceeding the actual loss suffered by TOWN if the Work is not completed on time. Accordingly, instead of requiring any such proof, TOWN and CONTRACTOR agree that as liquidated damages for delay, but not as a penalty, CONTRACTOR shall pay the TOWN as follows:
 - a. For each day that expires after the time established to achieve Substantial Completion as specified above, CONTRACTOR shall pay TOWN liquidated damages in the amount of \$_____ .
 - b. For each day that expires after the time established to achieve Final Completion as specified above, CONTRACTOR shall pay TOWN liquidated damages in the amount of \$_____ .
 - c. [Insert liquidated damage rate for and Interim or Milestone dates.]
- B. CONTRACTOR hereby waives any defense as to the validity of any liquidated damages stated in this Agreement as they may appear on the ground that such liquidated damages are void as penalties or are not reasonably related to actual damages.
- C. TOWN may recover liquidated damages by deducting the amount owed from progress payments, final payment or retainage.

4. **CONTRACT PRICE**

4.1. *[If Fixed Price]* In consideration of the Performance of the Contract, the Owner agrees to pay the Contractor as compensation for his services the firm, fixed price of: _____ Dollars and _____ Cents (\$_____).

4.2 *[If Unit Price]* In consideration of the Performance of the Contract, the Owner agrees to pay the Contractor as compensation for his services in accordance with the Bid Form and Contract Documents, which are included as Exhibits to this Agreement, an amount equal to the sum of the itemized prices as shown for each item of work multiplied by the actual quantity of each item completed:

A. Total Computed Price used for Comparison and Award:

(Words)

\$ _____
(Figures)

All specific cash allowances are included in the above price and have been computed to include the Contractors profit, overhead, all furnishing and installation charges.

This is a unit price contract and the estimated quantities are not guaranteed and are given only as a basis of calculation for comparing and awarding the project. The determinations of actual quantities and classifications are to be made by Project Manager, as provided in the General Conditions, Article 9. The Total Computed Price used for Comparison and Award will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately defined item times the estimated quantity for each item as indicated on the bid form. Notwithstanding the language of this paragraph, the contract price shall not exceed \$_____ without further authorization.

5. **INTEREST**

5.1 The rate of interest charged shall be the base rate on corporate loans (prime rate) at large United States money center commercial banks as reported daily in the publication entitled The Wall Street Journal. Whenever a split prime rate is published, the lower of the two rates shall be used.

6. **CONTRACT DOCUMENTS**

- 6.1 The Contract Documents which comprise the entire Agreement between TOWN and CONTRACTOR concerning the Work are defined as follows:
- A. This Agreement (pages 1 to _____, inclusive);
 - B. Performance Bond (pages 1 to _____, inclusive);
 - C. Payment Bond (pages 1 to _____, inclusive);
 - D. Insurance Certificate (pages 1 to _____, inclusive);
 - E. Project Manual (pages 1 to _____, inclusive), including the General Conditions;
 - F. Specifications as referenced in the Project Manual.
 - G. Drawings consisting of cover sheet and sheets numbered ____ thru _____, inclusive; with each sheet bearing the following general title:

 - H. Addenda
 - I. Exhibits to this Agreement (enumerated as follow):
 - 1. Notice to Proceed
 - 2. CONTRACTOR'S Bid
 - 3. Documentation submitted to TOWN by CONTRACTOR prior to Notice of Award
 - 4. _____
 - J. Deliverables issued on or after the effective date of the Agreement and are not attached hereto:
 - 1. Written Amendments
 - 2. Work Change Directives
 - 3. Change Orders

7. **Notice**

The term "Notice" as used herein shall mean and include written notice. Any legal notice by any party shall be deemed to have been duly given if either delivered personally or enclosed in a registered, postage paid envelope addressed to:

The Owner:

The Owner's Project Manager:

The Contractor:

IN WITNESS WHEREOF, TOWN and CONTRACTOR have signed two copies of this Agreement. All portions of the Contract Documents have been signed or identified by TOWN and CONTRACTOR.

TOWN OF LEESBURG
P.O. Box 88
Leesburg, VA 20178

CONTRACTOR

By _____

By _____

Town Manager

President

Date _____

Date _____

License No: _____

[CORPORATE SEAL]

Approved as to Form:

Town Attorney

Resolution authorizing execution
of Agreement is attached hereto.

Agent for service of process:

(If CONTRACTOR is a corporation
attach evidence of authority to
sign.)

END OF SECTION

VIRGINIA PAYMENT BOND

BOND NO. _____

AMOUNT: \$ _____

KNOW ALL MEN BY THESE PRESENTS, that _____
of _____ hereinafter called the CONTRACTOR
(Principal), and _____
a corporation duly organized and existing under and by virtue of the laws of the State
of _____, hereinafter called the SURETY, and authorized to
transact business _____ within the
Commonwealth of Virginia, as SURETY, are held and firmly bound unto The Town of Leesburg
as OWNER (Obligee), in the sum of:

_____ DOLLARS (\$ _____), lawful money
of the United States of America, for the payment of which, well and truly be made to the
OWNER. The CONTRACTOR and the SURETY bind themselves and each of their heirs,
executors, administrators, successors, and assigns, jointly and severally, firmly by these presents
as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the CONTRACTOR has executed and entered into a certain Contract hereto
attached with _____, naming the OWNER as beneficiary, dated this
_____ day of _____, 20 _____,
for: _____

NOW, THEREFORE, the CONTRACTOR shall promptly make payment to all persons, firms,
subcontractors, and corporations furnishing materials for or performing labor in the prosecution
of the work provided for in the Contract, and any authorized extension or modification thereof,
including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on
machinery, equipment, and tools consumed or used in connection with the construction of the
work, and all insurance premiums on the work, and for all labor performed in the work, whether
by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force
and effect.

Furthermore, the SURETY, for value received, hereby stipulates and agrees that no change,
extension of time, alteration, or addition to the terms of the Contract Documents or to the work
to be performed there under, or the Specifications accompanying the same, shall in any way

affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract Documents.

PROVIDED, FURTHER that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, the above parties bounded together have executed this instrument this _____ day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

By _____ (Seal)

Attest

SURETY

By _____ (Seal)

Attest

NOTE: Date of bond must not be prior to date of Contract. If CONTRACTOR is a partnership, all partners should execute bond.

IMPORTANT: The SURETY named on this bond shall be one who is licensed to conduct business in the Commonwealth of Virginia, and named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies, as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All bonds signed by an agent must be accompanied by a certified copy of the authority to act for the SURETY at the time of the signing of this bond.

VIRGINIA PERFORMANCE BOND

BOND NO. _____

AMOUNT: \$ _____

KNOW ALL MEN BY THESE PRESENTS, that _____

of _____

hereinafter called the CONTRACTOR (Principal), and _____

_____ a corporation duly organized and existing under and by virtue of the laws of the State of _____, hereinafter called the SURETY, and authorized to transact business _____ within the Commonwealth of Virginia, as SURETY, are held and firmly bound unto The Town of Leesburg as OWNER (Obligee), in the sum of:

_____ DOLLARS (\$ _____), lawful money of the United States of America, for the payment of which, well and truly be made to the OWNER. The CONTRACTOR and the SURETY bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the CONTRACTOR has executed and entered into a certain Contract hereto attached with _____, naming the OWNER as beneficiary, dated this _____ day of _____, 20 _____, for: _____

NOW, THEREFORE, the CONTRACTOR shall at all times duly, promptly, and faithfully perform the Contract and any alteration in or addition to the obligations of the CONTRACTOR arising there under, including the matter of infringement, if any, of patents or other proprietary rights, and shall assure all guarantees against defective workmanship and materials, including the guarantee period following final completion by the CONTRACTOR and final acceptance by the OWNER and comply with all covenants therein contained in the Specifications, Drawings, and other Documents constituting a part of the Contract required to be performed by the CONTRACTOR, in the manner and within the times provided in the Contract, and shall fully indemnify and save harmless the OWNER from all cost and damage which it may suffer by reason or failure so to do, and shall fully reimburse and repay it all outlay and expenses which it may incur in making good any default, and reasonable counsel fees incurred in the prosecution of

or defense of any action arising out of or in connection with any such default, then this obligation shall be void; otherwise to remain in full force and effect.

Furthermore, the SURETY, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract Documents or to the work to be performed there under, shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract Documents.

PROVIDED, FURTHER that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, the above parties bounded together have executed this instrument this _____ day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

By _____(Seal)

Attest

SURETY

By _____(Seal)

Attest

NOTE: Date of bond must not be prior to date of Contract. If CONTRACTOR is a partnership, all partners should execute bond.

IMPORTANT: The SURETY named on this bond shall be one who is licensed to conduct business in the Commonwealth of Virginia, and named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies, as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All bonds signed by an agent must be accompanied by a certified copy of the authority to act for the SURETY at the time of the signing of this bond.

INSTRUCTIONS TO BIDDERS

COMMENT CONCERNING SPECIFICATIONS (VPPA 2.2-4316)

General and Technical questions relating to this solicitation shall be submitted in writing to Renée LaFollette, Director, Office of Capital Projects, by email at CapitalBidQuestions@leesburgva.gov. Please put the title of this IFB in the subject line of the email.

If any questions or responses require revisions to the solicitation as originally published, such revisions will be by formal amendment only. Bidders are cautioned that any written or oral representations made by any Town representative or other person that appear to change materially any portion of the solicitation shall not be relied upon unless subsequently ratified by a written amendment to this solicitation issued by the Office of Capital Projects. For determination as to whether an oral or written representation of any Town representative or other person requires that an amendment be issued, contact the Director, Office of Capital Projects in writing at fax number 703-737-7065.

INCOMPLETE DOCUMENTS

The Contractor, as a bidder, is responsible for having determined the accuracy and completeness of bid documents upon which it relied in making its bid, and having notified the Director, Office of Capital Projects immediately upon discovery of an apparent inaccuracy, error in, or omission of any pages, drawings, sections, or addenda whose omission from the documents was apparent from a reference or page numbering in the bidding documents.

If the Contractor proceeds with any activity that may be affected by an inaccuracy, error in, or omission described above, of which it has not notified the Director, Department of Capital Projects, the Contractor hereby agrees to perform any work described in such missing or incomplete documents at no additional cost to the Town.

TOWN OF LEESBURG BUSINESS PROFESSIONAL AND OCCUPATION LICENSE (BPOL)

The successful bidder must comply with the provisions of Section 17-163 (License requirement) of the Town of Leesburg Code, if applicable. For information on the provisions of this chapter and its applicability to this Contract, contact the Town of Leesburg Staff Accountant, Finance Department, Town of Leesburg, Virginia, Telephone Number 703-771-6503.

FORM AND STYLE OF BIDS

The Bids shall be submitted on forms identical to the Bid Form included with the Bidding Documents, and all blanks on the Bid Form shall be filled in by a typewriter or manually in ink. Where so indicated by the makeup of the Bid Form, sums shall be expressed in both words and figures, and in case of discrepancy between the two, the amount written in words shall govern. Any interlineations, alterations, and erasures must be initialed by the signer of the Bid.

Each copy of the Bid shall include the legal name of the Bidder and a statement that the Bidder is a sole proprietor, partnership, corporation, or other legal entity. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporate seal affixed. All names shall

be typed or printed in ink below the signatures. The address and phone number for communication regarding the bid shall be shown. Email address may be included at bidder's option.

BID BOND

Each bid shall be accompanied by a bid security (on enclosed form or cashiers check), in the amount of five percent (5%) of the bidder's maximum Bid price, pledging that the Bidder will enter into a Contract with the TOWN on the terms stated in the Bid. Should the Bidder refuse to enter into such Contract the amount of the bid security shall be forfeited to the TOWN as liquidated damages, not as a penalty. The amount of the bid security shall not be forfeited to the TOWN in the event the TOWN fails to prove financial capability if requested in writing by the successful bidder. Pursuant to VPPA Section 2.2-4336.

The TOWN will have the right to retain the bid security of Bidders to whom an award is being considered until either (a) the Contract has been executed or (b) the specified time has elapsed so that Bids may be withdrawn, or (c) all Bids have been rejected.

SUBMISSION OF BIDS

Each prospective Bidder is furnished one copy of the Bidding Documents with one separate unbound copy each of the Bid Form and the Bid Bond. The unbound copy of the Bid Form is to be completed and submitted with the Bid security.

All copies of the Bid, the bid security, and other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope is to be addressed to the party receiving the Bids and is to be identified with the Project name, the Bidder's name and address, and if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope is to be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

Bids shall be received by Ms. Renée LaFollette, Director, Office of Capital Projects at the designated location prior to the time and date of the receipt of Bids. Bids received after the time and date for receipt of Bids will be returned unopened. The official time will be deemed to be that of the accepting agency.

The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids. Verbal, telephonic, or telegraphic Bids are invalid, and will not receive consideration.

This project is a VDOT and Federally funded project. All applicable forms shall be submitted with the bid, including, but not limited to, Form C-111 Minimum DBE Requirements and Form C-112 Certificate of Binding Agreement.

This project requires that bidders be VDOT pre-qualified contractors.

The DBE goal on this project is twelve percent (12%).

MODIFICATION/WITHDRAWAL OF BID

A Bid may not be modified, withdrawn, or cancelled by the Bidder during the stipulated time period following the time and date designated for the receipt of Bids, and each Bidder so agrees in submitting a Bid.

Prior to the time and date designated for receipt of Bids, a Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such a notice shall be in writing over the signature of the Bidder or by telegram; if by telegram, written confirmation over the signature of the Bidder shall be mailed and postmarked on or before the date and time set for receipt of Bids. A change shall be so worded as not to reveal the amount of the original Bid.

Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids, provided that they are then fully in conformance with these Instructions to Bidders.

Bid security, if required, shall be in an amount sufficient for the Bid as modified or resubmitted.

If within two (2) business days after Bids are opened any Bidder files a duly signed written notice, accompanied by original work papers, with the TOWN that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. This procedure shall follow Section 2.2-4330(i) of the Virginia Public Procurement Act (VPPA). Thereafter, if the Work is re-bid, that Bidder will be disqualified from further bidding on the Work.

CONSIDERATION OF BIDS

The TOWN shall have the right to reject any or all Bids, reject a Bid not accompanied by a required bid security or by other data required by the Bidding Documents, or reject a Bid, which is in any way incomplete or irregular.

After the bids are opened and publicly read aloud, the town will recalculate the arithmetic of all bids. The recalculation will consist of the following:

1. The Extended Price will be the Quantity x Unit Price. The accuracy of this calculation will be verified for all unit price items of work. All mathematical errors will be corrected to arrive at the correct extended price. If no price is shown for the Unit Price, it is assumed to be zero.
2. The sum of all extensions will be calculated and any mathematical errors will be corrected.
3. If there are multiple sections to the bid, for example the Total Base Bid = Section 'A' + 'B', the sum of the sections will be calculated. All mathematical errors will be corrected.

The corrected numbers will be the totals used to compare all bids and in the case of these adjustments to the lowest responsive, responsible bidder will become the value of the recommended contract award.

AWARD

It is the intent of the TOWN to award a Contract to the lowest responsive and responsible Bidder, provided the low bid does not exceed the funds available. The TOWN shall have the right to waive informalities in a Bid received and to accept the Bid, which, in its judgment, is in the TOWN'S best interest. The Notice of Intent to Award a contract resulting from the solicitations for bids and exceeding \$100,000 will be posted on the Public Notice Board at 25 W. Market Street, Leesburg, VA in the form of a Town Council Agenda item. Notices for contracts less than \$100,000 will be posted at the same location in the form of a separate public notice item.

PROTEST

Any bidder or offeror who desires to protest the award or decision to award a contract shall submit such protest in writing to the TOWN, no later than 10 days after public notice of award or the announcement of the decision to award, whichever occurs first, pursuant to section 2.2-4360 of the VPPA.

ACCEPTANCE OF BID (VPPA 2.2-4337)

The bids received shall be open to acceptance and is irrevocable for **ninety (90) days** from the Bid Closing date.

If the bid is accepted by the Town within the period specified above, the Contractor shall provide a certificate of insurance, Payment bond, and Performance Bond within 10 days of the Notice of Award. Each bond, the Performance Bond and the Payment Bond, shall be in the amount of 100% of the Contract Amount. The bonds shall be corporate surety bonds issued by a surety company authorized to do business in the Commonwealth of Virginia and acceptable to the Town. The Performance Bond will be conditioned upon the faithful performance of all of the work shown, described and required in the Contract Documents. The Payment Bond will be conditioned upon the payment of all persons who have and fulfill contracts for the Contractor for providing labor, equipment of material in the performance of the work provided for in the Contract Documents.

If this bid is accepted within the time stated, and the Contractor fails to provide the required Bonds, or commence the project as directed, the security deposit shall be forfeited as damages to the Town by reason or failure, limited in amount to the lesser of the face value of the security deposit or the difference between this Bid and the Bid upon which the Contract is signed.

SCC IDENTIFICATION NUMBER (VPPA Section 2.2-4311.2.B)

Every Bidder must include their State Corporation Commission (SCC) Identification Number or reason for exemption with his/her bid. If this information is not included, the Bid may be rejected.

STIPULATED PRICES

The term “STIPULATED PRICE ITEM” means and includes an item of Work, unanticipated at the time of issuance of the solicitation for a Bid and determined to be executed, based on the actual field conditions during the progress of Work under the contract, mutually by the Engineer and the Contractor. The Unit Price for the “STIPULATED PRICE ITEM”, as identified in the “Stipulated Price Items” section of the Bid Form, is predetermined by the Town as the current reasonably workable rate for the Item inclusive of all necessary labor, equipment, materials, overhead (provision and installation), and the contractor’s profit. Work on the “STIPULATED PRICE ITEM” shall be carried out either at the written request of the Contractor followed by a written approval by the Engineer or at the written order by the ENGINEER to the Contractor. The payment for a “STIPULATED PRICE ITEM” shall be made by the Town to the Contractor at the related Unit Price specified in the ‘Stipulated Price Items’ section of the Bid Form on the same basis as the payment for any other regular Bid Item.

COORDINATION WITH UTILITIES

The Contractor shall coordinate the work of his forces with the utility companies during the contract to ensure the continuing progress of all work to be performed within the project area.

The Contractor shall notify “MISS UTILITY” at 1-800-552-7001, 72 hours prior to beginning construction.

It shall be the responsibility of the contractor to notify operators who maintain underground utility lines in the area of proposed excavation or blasting at least five (5) working days prior to any construction, subsequent maintenance or repair.

The contractor shall dig test holes over all existing utilities prior to construction to determine their exact location and shall notify the construction manager of any necessity for redesign.

TREES

In the event that a tree is injured or damaged, the Contractor should contact the Town’s inspector immediately.

CONTRACT TIME

Substantial Completion:	456 calendar days from Notice to Proceed
Final Completion:	30 calendar days from Substantial Completion
Liquidated Damages:	Per Section 108.06(b), VDOT Specifications, current edition

CONTRACT ITEMS OF WORK

Field Office Type II (per VDOT Road and Bridge Specifications and shall include the following equipment only):

- 1 Double-pedestal desk approx. 60" X 34"
- 1 Plan & Drafting table approx. 30" X 96" with an adjustable stool
- 1 4-drawer metal fire protection file cabinet, 15" drawer width, minimum UL rating of class 350
- 1 Dry erase board – wall mounted, minimum 15 SF, with eraser and markers
- 3 Office chairs, 2 with casters
- 4 Folding chairs
- 1 First Aid Kit containing eye and skin protection for emergencies.
- 3 Wastebaskets

Rock Excavation:

- Mass excavation is defined as any material which cannot be dislodged by a D-8 Caterpillar tractor, or equivalent, equipped with hydraulically operated, single tooth power ripper without the use of hoe-ramming or blasting.
- Trench excavation is defined as any material which cannot be dislodged by a Caterpillar 330 hydraulic backhoe or equivalent.

Construction Survey: This item is to include all survey and layout required to build the project. The survey layout shall be based on 25' intervals. In addition, a pre-construction survey and a final survey are required. These surveys will be used to determine the final pay quantities for the embankment and excavation items of the contract. A field surveyed as-built in PDF format of all storm inverts and top elevations is also included in this pay item.

Hydrant Meter: The contractor is required to obtain a fire hydrant meter from Town's Utility Department to be used for withdrawing water during construction. Any illegal hookup to a fire hydrant will result in a \$1,000 fine for the first offense and a \$2,500 fine for each subsequent offense on the same job.

Traffic Lanes: All traffic lanes affected by construction shall be opened to traffic at the conclusion of each work day except where detours have been established.

Private Entrances and Driveways: The Contractor shall minimize the duration of any blockage to private entrances and driveways. The affected property owner shall be notified a minimum of 24 hours in advance of such activities and the contractor shall make all private entrances and driveways accessible at the conclusion of each work day.

Utility Trenches: Haul-off excavation material shall be incidental to work items and Contractor shall include its cost in relevant pay items. The utility trenches shall be backfilled to the level of the roadway and capped with hot mix asphalt at the end of each work day.

Connection to Existing Structures: Connections made to existing structures shall be accomplished by means that are in accordance with the Town DCSM and VDOT specifications.

Storm Drainage: All storm drainage installed in paved areas shall be backfilled utilizing 21-A material, from the top of the bedding material used for the pipe to the sub-grade elevation. Storm drainage installed under sidewalks or grass areas shall be backfilled in accordance with the Town of Leesburg DCSM, and of VDOT specifications, whichever is most stringent. Any concrete cradles or piers required for crossing existing sanitary or waterline are to be considered incidental to the storm drainage items of work.

Sanitary Sewer: All Sanitary Sewer installed in paved areas shall be backfilled utilizing 21-A material, from the top of the bedding material used for the pipe to the sub-grade elevation.

Waterline: All waterline installation shall be backfilled utilizing 21-A material, from the top of the bedding material used for the pipe to sub-grade elevation. All waterline work shall be in accordance with the Town of Leesburg DCSM. Any bends, T's, or other fittings not specifically listed as a line item on the bid shall be considered incidental to the waterline construction.

Waterline Connections: Prior to any waterline connections, the contractor shall set up a meeting with the Town's project manager to review the proposed schedule for the connections, and must obtain approval for the time of connection and duration of any potential interruption in water service to residents and/or businesses.

Test Pits: Test pits as described on the plans in the General Notes, are to be considered incidental to all other line items of work.

CBR Testing & Pavement Design: The Contractor is required to provide CBR testing and a final pavement design for this project. The contractor should obtain soil samples for the CBR testing from the sub-grade elevation at the time of storm drainage installation. Soil testing is to include a full classification, including Liquid Limits, Plasticity Limit, and Plasticity Index. This item is to be considered incidental to the earthwork and paving items of the contract.

Lime Stabilization: This line item is to be used at the direction of the Town and will be based on the results of the soil testing done as a part of the CBR Testing & Pavement design. The CBR Testing and Pavement design should be performed in a manner that takes into account both sub-grade conditions, non-lime stabilized and lime stabilized.

Topsoil: Contractor shall strip the topsoil and stockpile the required quantity for later use/re-spreading.

Temporary Stabilization: This item will be utilized only at the direction of the Loudoun County E&S inspector or the Town of Leesburg Project Manager in order to keep the project in compliance.

Damage to Existing Fence: In the event that a fence is damaged, the Contractor shall replace in kind at no additional cost to the Town.

Asphalt Binder Adjustment: AC Binder adjustments will be utilized on this project, in accordance with standard VDOT practices.

As-Built Drawings: As per Article 4.13 and DCSM requirements

Landscaping is not part of this contract.

Project Sign:



Burgundy: PMS 188

C: 0
M: 97
Y: 100
K: 50

R: 17
G: 6
B: 0

Gold: PMS 130

C: 0
M: 30
Y: 100
K: 0

R: 255
G: 179
B: 0

Dark Blue: PMS 2767

C: 100
M: 78
Y: 0
K: 54

R: 6
G: 16
B: 64

The following bidding procedures shall apply to the contract for DBE Program compliance purposes:

Contract Goal, Good Faith Efforts Specified: All bidders evidencing the attainment of DBE goal commitment equal to or greater than the required DBE goal established for the project must submit completed Form C-111, Minimum DBE Requirements, and Form C-48, Subcontractor/Supplier Solicitation and Utilization, as a part of the bid documents.

Form C-111 may be submitted electronically or may be faxed to the *Town*, but **in no case shall the bidder's Form C-111 be received later than 10:00 a.m. the next business day after the time stated in the bid proposal for the receipt of bids. Form C-48 must be received within ten (10) business days after the bid opening.**

If, at the time of submitting its bid, the bidder knowingly cannot meet or exceed the required DBE contract goal, it shall submit Form C-111 exhibiting the DBE participation it commits to attain as a part of its bid documents. The bidder shall then submit Form C-49, DBE Good Faith Efforts Documentation, within two (2) business days after the bid opening.

The lowest responsive and responsible bidder must submit its properly executed Form C-112, Certification of Binding Agreement, within three (3) business days after the bids are received. DBEs bidding as prime contractors are not required to submit Form C-112 unless they are utilizing other DBEs as subcontractors.

If, after review of the apparent lowest bid, the Town determines the DBE requirements have not been met, the apparent lowest successful bidder must submit Form C-49, DBE Good Faith Efforts Documentation, which must be received by the Contract Engineer within two (2) business days after official notification of such failure to meet the aforementioned DBE requirements.

Forms C-48, C-49, C-111, and C-112 can be obtained from the VDOT website at:
<http://vdotforms.vdot.virginia.gov/>

Instructions for submitting Form C-111 can be obtained from the VDOT website at:
http://www.virginiadot.org/business/resources/const/Exp_DBE_Commitments.pdf

MAINTENANCE OF TRAFFIC

The Contractor shall conduct its operations in a manner that will ensure that traffic will be uninterrupted except as approved by the Town. At the close of each workday, the contractor shall make all private entrances and driveways accessible. The contractor shall make provisions to maintain a safe area for pedestrian traffic at all times during the project. No excavation shall remain open within the roadway without the approval of the Town except when the excavation can be safely bridged with the use of steel plates or other materials acceptable to the Town. When areas of excavation outside of the roadway do remain open, the area shall be barricaded and warning signs shall be posted.

At all times the Contractor shall use the personnel and traffic control signs and devices necessary to comply with Part VI of the "National Manual on Uniform Traffic Control Devices". During the progress of the work when the street may be obstructed to any extent by construction equipment or construction operations, in addition to the signs and barricades, special workers, equipped with VDOT required "STOP\SLOW" double-sided traffic control paddles, shall be designated by the Contractor to direct traffic. These workers so designated shall not be assigned to any other duties while engaged in directing traffic. The workers assigned to the flagging duties shall be VDOT-certified. The Contractor has sole responsibility for ensuring that its operations are conducted in a safe manner and notwithstanding any other provision to the contrary, shall fully indemnify the Town of Leesburg, its officers, agents and employees for any damage or injury related to traffic operations which is caused by negligent or otherwise improper or deficient performance under the Contract or nonperformance of the terms of the Contract.

1. All personnel, signs, barricades and any other items necessary for the maintenance of traffic and safety shall be provided by the Contractor. This item is to be considered incidental to all other items of work, unless specifically listed in the bid tabulation for separate payment.

2. The contractor will not be permitted to work on the following holidays:
-Annual Flower and Garden Show -Memorial Day -Independence Day
-Labor Day -Thanksgiving -Day after Thanksgiving -Christmas Day
-New Year's Day

3. Work hours on the project will be limited to 7:00 a.m. to 7:00 p.m., Monday through Friday. Weekend work will not be allowed without written permission from the Project Manager. Work that involves closing a lane on South King Street (Route 15), so that two-way traffic is not maintained, will be limited to the hours of 9:30 a.m. and 3:30 p.m.

4. The Contractor is required to submit a Maintenance of Traffic Plan for review and approval. Approval of the Maintenance of Traffic Plan is required prior to beginning any construction activities on the project. **The Maintenance of Traffic Plan is required for the issuance of the required right-of-way permit issued by the Town of Leesburg.**

TREE PROTECTION SPECIFICATIONS

SITE CLEARING, DEMOLITION

The following work must be accomplished before any demolition or site-clearing activity occurs within 100 feet of the tree(s) to be saved.

1. The site contractor is required to meet with the Town Urban Forester at the site prior to beginning work to review all work procedures, access and haul routes, and tree protection measures.
2. The limits of all tree protection zones shall be staked in the field.
3. Tree(s) to be removed that have branches extending into the canopy of tree(s) to remain must be removed by a qualified arborist and not by demolition or construction contractors. A qualified arborist shall remove the tree in a manner that causes no damage to the tree(s) and understory to remain.
4. Any brush clearing required within the tree protection zone shall be accomplished with hand-operated equipment.
5. Trees to be removed shall be felled so as to fall away from tree protection zones and to avoid pulling and breaking of roots of trees to remain. If roots are entwined, the Town Urban Forester may require first severing the major woody root mass before extracting the trees. This may be accomplished by cutting through the roots by hand, with a vibrating knife, rock saw, narrow trencher with sharp blades, and other approved root-pruning equipment.
6. Trees to be removed from within the tree protection zone shall be removed by a qualified arborist. The trees shall be cut near ground level and the stump ground out.
7. All downed brush and trees shall be removed from the tree protection zone either by hand or with equipment sitting outside the tree protection zone. Extraction shall occur by lifting the material out, not by skidding it across the ground.
8. Brush shall be chipped and placed in the tree protection zone to a maximum depth of 6 inches leaving the trunk clear of mulch.
9. Structures and underground features to be removed within the tree protection zone shall use the smallest equipment possible, and operate from outside the tree protection zone. The Town Urban Forester shall be on site during all operations within the tree protection zone to monitor demolition activity.
10. All trees shall be pruned in accordance with the provided Pruning Specifications.
11. A 4-foot high, welded wire fence with steel T-posts shall be erected to enclose the tree

protection zone.

12. Any damage to trees due to demolition activities, shall be reported to the Town Urban Forester within 6-hours so that remedial action can be taken. Timeliness is critical to tree health.
13. If temporary haul or access roads must pass over the root area of trees to be retained, a road bed of 6 inches of mulch with ½ inch sheets of plywood on top shall be created to protect the soil. The roadbed material shall be replenished as necessary to maintain a 6-inch depth.

PRUNING SPECIFICATIONS

1. Specifications for individual trees, indicated by tree identification number, and describing which branches should be pruned and how, may be needed. Also consider requirements for crown reduction and crown raising where structures will be close to trees.
2. All trees within the project area shall be pruned to:
 - 2.1 Clear the crown of diseased, crossing, weak, and dead wood to a minimum size of 1-inch diameter;
 - 2.2 Provide 14 feet of vertical clearance over streets and 8 feet of vertical clearance over sidewalks;
 - 2.3 Remove stubs, cutting outside the wound wood tissue that has formed around the branch;
 - 2.4 Reduce end weight on heavy, horizontal branches by selectively removing small diameter branches, no greater than 2 to 3 inches, near the ends of the scaffolds.
 - 2.5 Where temporary clearance is needed for access, branches shall be tied back to hold them out of the clearance zone.
 - 2.6 Pruning shall not be performed during periods of flight of adult boring insects because fresh wounds attract pests. Pruning shall be performed only when the danger of infestation is past.
 - 2.7 A qualified arborist shall perform all pruning.
 - 2.8 All pruning shall be in accordance with the International Society of Arboriculture Tree-Pruning Guidelines and/or the ANSI A300 Pruning Standard (American National Standard for Tree Care Operations) and adhere to the most recent edition of ANSI Z133.1.
 - 2.9 Interior branches shall not be stripped out.

- 3.0 Pruning cuts larger than 4 inches in diameter, except for dead wood, shall be avoided.
- 3.1 Pruning cuts that expose heartwood shall be avoided whenever possible.
- 3.2 No more than 20 percent of live foliage shall be removed within the trees.
- 3.3. While in the tree, the arborist shall perform an aerial inspection to identify defects that require treatment. Any additional work needed shall be reported to the Town Urban Forester.
- 3.4 Brush shall be chipped and chips shall be spread underneath trees within the tree protection zone to a maximum depth of 6 inches leaving the trunk clear of mulch.

CONSTRUCTION SPECIFICATIONS

1. Fences have been erected to protect trees to be preserved. Fences define a specific protection zone for each tree or group of trees. Fences are to remain until all site work has been completed. Fences may not be relocated or removed without the written permission of the Town Urban Forester.
2. Construction trailers and traffic and storage areas must remain outside fenced areas at all times.
3. All underground utilities and drain or irrigation lines shall be routed outside the tree protection zone. If lines must traverse the protection area, they shall be tunneled or bored under the tree(s).
4. No materials, equipment, spoil, or waste or washout water may be deposited, stored, or parked within the tree protection zone (fenced area).
5. Additional tree pruning required for clearance during construction must be performed by a qualified arborist and not by construction personnel.
6. Any herbicides placed under paving materials must be safe for use around trees and labeled for that use. Any pesticides used on site must be tree-safe and not easily transported by water.
7. If injury should occur to any retained tree during construction, it shall be reported to the Town Urban Forester within 6-hours so that remedial action can be taken.
8. All trees shall be irrigated. Each irrigation event shall wet the soil within the tree protection zone to a depth of 12 inches.
9. Erosion control devices such as silt fencing, debris basins, and water diversion structures shall be installed to prevent siltation and/or erosion within the tree protection zone.

10. Before grading, pad preparation, or excavation for foundations, footings, walls, or trenching, trees shall be root pruned 1 foot outside the tree protection zone by cutting all roots cleanly to a depth of 24 inches. Roots shall be cut by manually digging a trench and cutting expose I roots with a saw, vibrating knife, rock saw, narrow trencher with sharp blades or other approved root-pruning equipment.
11. Any roots damaged during grading or construction shall be exposed to sound tissue and cut cleanly with a saw.
12. If temporary haul or access roads must pass over the root area of trees to be retained, a roadbed of 6 inches of mulch with ½ plywood over the mulch shall be created to protect the soil. The roadbed material shall be replenished as necessary to maintain a 6-inch depth.
13. Spoil from trenches, basements, or other excavations shall not be placed within the tree protection zone, either temporarily or permanently.
14. No burn piles or debris pits shall be placed within the tree protection zone. No ashes, debris, or garbage may be dumped or buried within the tree protection zone.
15. Maintain fire-safe areas around fenced areas. Also, no heat sources, flames, ignition sources, or smoking is allowed near mulch or trees.

END OF SECTION

END OF INSTRUCTIONS TO
BIDDERS

VDOT SUPPLEMENTAL SPECIFICATIONS (SSs), SPECIAL PROVISIONS (SPs) AND SPECIAL PROVISION COPIED NOTES (SPCNs)

Where Virginia Department of Transportation (VDOT) Supplemental Specifications, Special Provisions and Special Provision Copied Notes are used in this contract, the references therein to “the Specifications” shall refer to the *Virginia Department of Transportation Road and Bridge Specifications*, dated 2007 for both imperial and metric unit projects. References to the “Road and Bridge Standard(s)” shall refer to the *Virginia Department of Transportation Road and Bridge Standards*, dated 2008 for both imperial and metric unit projects. References to the “Virginia Work Area Protection Manual” shall refer to the 2011 edition of the *Virginia Work Area Protection Manual* for imperial and metric unit projects. References to the “MUTCD” shall refer to the 2009 edition of the *MUTCD* and the current *Virginia Supplement to the MUTCD* for imperial and metric unit projects.

Where the terms “Department”, “Engineer” and “Contract Engineer” appear in VDOT Supplemental Specifications, Special Provisions and Special Provision Copied Notes used in this contract and the VDOT publication(s) that each references, the authority identified shall be in accordance with the definitions in Section 101.02 of the *Virginia Department of Transportation Road and Bridge Specifications*, dated 2007. Authority identified otherwise for this particular project will be stated elsewhere in this contract.

VDOT Supplemental Specifications, Special Provisions and Special Provision Copied Notes used in this contract and the VDOT publication(s) that each reference are intended to be complementary to the each other. In case of a discrepancy, the order of priority stated in Section 105.12 of the *Virginia Department of Transportation Road and Bridge Specifications*, dated 2007 shall apply.

VDOT Special Provision Copied Notes in this contract are designated with “(SPCN)” after the date of each document. VDOT Supplemental Specifications and Special Provision Copied Notes in this contract are designated as such above the title of each document.

The information enclosed in parenthesis “()” at the left of each VDOT Special Provision Copied Note in this contract is file reference information for VDOT use only. The information in the upper left corner above the title of each VDOT Supplemental Specification and VDOT Special Provision in this contract is file reference information for VDOT use only.

The system of measurement to be used in this project is stated elsewhere in this contract. VDOT Supplemental Specifications, Special Provisions and Special Provision Copied Notes containing imperial units of measure with accompanying expressions in metric units shall be referred to hereinafter as “dual unit measurement” documents. Such a “dual unit measurement” is typically expressed first in the imperial unit followed immediately to the right by the metric unit in parenthesis “()” or brackets “[]” where parenthesis is used in the sentence to convey other information. Where a “dual unit measurement” appears in VDOT documents, the unit that applies shall be in accordance with the system of measurement as stated elsewhere in this contract. The unit shown that is not of the declared unit of measurement is not to be considered interchangeable and mathematically convertible to the

declared unit and shall not be used as an alternate or conflicting measurement. Where VDOT Specifications are used for metric unit projects and only imperial units of measurement appear the document, the provision(s) in this contract for imperial unit to metric unit conversion shall apply.

12-1-11 (SPCN)

(c103i01-0814)

SECTION 103—AWARD AND EXECUTION OF CONTRACTS of the Specifications is amended as follows:

Section 103.09—Execution of Contract is amended to include the following:

According to Section 2.2-4308.2 of the *Code of Virginia*, any employer with more than an average of 50 employees for the previous 12 months entering into a contract in excess of \$50,000 with the Department to provide work or provide services pursuant to such contract shall register and participate in the U.S. Department of Homeland Security’s “E-Verify” system to verify information and work authorization of its newly hired employees performing work pursuant to such contract.

Contractors are not required to be enrolled with “E-Verify” at the time bids are submitted, however, prior to award, the lowest responsive and responsible bidder must be enrolled with “E-Verify”. Contractors may use the following website to enroll in “E-Verify”, <http://www.uscis.gov/e-verify>.

8-8-14 (SPCN)

PERSONNEL REQUIREMENTS FOR WORK ZONE TRAFFIC CONTROL - Section 105 and 512 of the Specifications are amended as follows:

Section 105.14—Maintenance During Construction is amended to add the following:

The Contractor shall provide at least one person on the project site during all work operations who is currently verified either by the Department in Intermediate Work Zone Traffic Control, or by the American Traffic Safety Services Association (ATSSA) as a Traffic Control Supervisor (TCS). This person must have the verification card with them while on the project site. This person shall be responsible for the oversight of work zone traffic control within the project limits in compliance with the contract requirements involving the plans, specifications, the VWAPM, and the MUTCD. This person’s duties shall include the supervision of the installation, adjustment (if necessary), inspection, maintenance and removal when no longer required of all traffic control devices on the project.

If none of the Contractor’s on-site personnel responsible for the supervision of such work has the required verification with them or if they have an outdated verification card showing they are not currently verified either by the Department in Intermediate Work Zone Traffic Control, or by the American Traffic Safety Services Association (ATSSA) as a Traffic Control Supervisor (TCS) all work on the project will be suspended by the Engineer.

The Contractor shall provide at least one person on site who is, at a minimum, verified by the Department in Basic Work Zone Traffic Control for each construction and/or maintenance operation that involves installing, maintaining, or removing work zone traffic control devices. This person shall be responsible for the placement, maintenance and removal of work zone traffic control devices.

In the event none of the Contractor's on-site personnel of any construction/maintenance operation has, at a minimum, the required verification by the Department in Basic Work Zone Traffic Control, that construction/maintenance operation will be suspended by the Engineer until that operation is appropriately staffed in accordance with the requirements herein.

Section 512.03 Procedures is amended to add (r) **Work Zone Traffic Control** as the following:

- (r) **Work Zone Traffic Control:** The Contractor shall provide individuals trained in Work Zone Traffic Control in accordance with the requirements of Section 105.14 of the Specifications.

Section 512.04 Measurement and Payment is amended to add the following:

Basic Work Zone Traffic Control – Separate payment will not be made for providing a person to meet the requirements of Section 105.14 of the Specifications. The cost thereof shall be included in the price of other appropriate pay items.

Intermediate Work Zone Traffic Control - Separate payment will not be made for providing a person to meet the requirements of Section 105.14 of the Specifications. The cost thereof shall be included in the price of other appropriate pay items.

6-11-09a (SPCN)

(c105hf1-0309) **SECTION 105.06 SUBCONTRACTING** of the Specifications is amended to include the following:

Any distribution of work shall be evidenced by a written binding agreement on file at the project site. Where no field office exists, such agreement shall be readily available upon request to Department inspector(s) assigned to the project.

The provisions contained in Form FHWA-1273 specifically, and other federal provisions included with the prime Contract are generally applicable to all Federal-aid construction projects and must be made a part of, and physically incorporated into all contracts, as well as, appropriate subcontracts for work so as to be binding in those agreements.

12-19-08 (SPCN)

PREDETERMINED MINIMUM WAGE RATES

General Decision Number: VA150135 01/02/2015 VA135

Superseded General Decision Number: VA20140135

State: Virginia

Construction Type: Highway

Counties: Alexandria*, Arlington, Clarke, Culpeper, Fairfax, Fairfax*, Falls Church*, Fauquier, Fredericksburg*, King George, Loudoun, Manassas Park*, Manassas*, Prince William, Spotsylvania, Stafford and Warren Counties in Virginia.

*INDEPENDENT CITIES

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of \$10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/02/2015

SUVA2013-010 09/20/2013

	Rates	Fringes
ASBESTOS WORKER.....	\$ 16.91	
CARPENTER (STRUCTURE).....	\$ 16.02	
CEMENT MASON/CONCRETE FINISHER...	\$ 21.71	
ELECTRICIAN.....	\$ 29.27	
FORM SETTER.....	\$ 14.00	
IRONWORKER, REINFORCING.....	\$ 34.18	
IRONWORKER, STRUCTURAL.....	\$ 19.13	
LABORER		
Asphalt Raker.....	\$ 15.85	
Blaster.....	\$ 35.00	

Construction Worker I (Skilled Laborer).....	\$ 15.77
Construction Worker II (Laborer).....	\$ 14.14
Deckhand.....	\$ 13.00
Fence Erector.....	\$ 14.41
Flagger.....	\$ 13.64
Grade Checker.....	\$ 13.42
Guardrail Erector.....	\$ 22.15
Landscape Worker.....	\$ 11.97
Pipe Layer.....	\$ 19.00
Power Tool Operator.....	\$ 15.00
Sign Erector.....	\$ 25.00
MASON (STRUCTURE).....	\$ 17.64
PAINTER.....	\$ 15.00
PLUMBER.....	\$ 25.00
POWER EQUIPMENT OPERATOR:	
Air Compressor.....	\$ 13.50
Asphalt Distributor.....	\$ 18.64
Asphalt Paver.....	\$ 19.35
Backhoe.....	\$ 20.59
Boom/Auger.....	\$ 20.29
Bulldozer (Utility).....	\$ 15.50
Bulldozer.....	\$ 20.40
Concrete Finish Machine Operator.....	\$ 18.54
Concrete Finisher Machine Screed Operator (Bridge)....	\$ 14.60
Concrete Paving Machine Operator.....	\$ 20.75
Concrete Pump Operator.....	\$ 33.00
Concrete Saw Operator.....	\$ 16.00
Crane, Derrick, Dragline (1 cm & under).....	\$ 24.53
Crane, Derrick, Dragline (over 1 cm).....	\$ 25.00
Crusher Tender.....	\$ 14.25
Drill Operator.....	\$ 15.70
Excavator (Gradall).....	\$ 19.32
Front End Loader (2 cm & under).....	\$ 19.00
Front End Loader (over 2 cm).....	\$ 20.42
Hydro Seeder.....	\$ 17.13
Log Skidder Operator.....	\$ 18.50
Mechanic.....	\$ 21.75
Mobile Mixer.....	\$ 17.00
Motor Grader (Fine Grade)...	\$ 27.25
Motor Grader (Rough Grade)..	\$ 13.58
Oiler, Greaser.....	\$ 14.00
Pavement Marking Operator...	\$ 17.00
Pavement Marking Truck Operator.....	\$ 16.72
Pavement Planing Groundman..	\$ 19.75
Pavement Planing Operator...	\$ 19.25
Pile Driver Operator.....	\$ 20.35

Pile Driver, Leadsman.....	\$ 21.32
Pipe Boring/Jacking Machine Operator.....	\$ 16.00
Plant Operator.....	\$ 14.88
Roller (Finish).....	\$ 17.94
Roller (Rough).....	\$ 17.06
Scraper Pan Operator.....	\$ 13.00
Shot Blast Machine Operator..	\$ 16.02
Shovel Operator (2 yds and under).....	\$ 16.00
Shovel Operator (over 2 yds).....	\$ 25.00
Slip-Form Paver.....	\$ 21.00
Slurry Seal Paver Machine Operator.....	\$ 13.75
Slurry Seal Paver Truck Operator.....	\$ 10.32
Stabilizer Operator.....	\$ 15.70
Stone-Spreader.....	\$ 13.35
Subgrade Machine Operator...\$	19.00
Tractor Operator, Crawlers..\$	12.47
Tractor Operator, Utility...\$	12.25
Trenching Machine.....	\$ 29.87
Vacuum Machine.....	\$ 18.20

TRAFFIC SIGNALIZATION:

Traffic Signal Installation.....	\$ 21.16
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TRUCK DRIVER

Fuel & Lubricant Service	
Truck Driver.....	\$ 17.73
Transit Mix Truck Driver....\$	15.00
Truck Driver (Multi-Rear Axle).....	\$ 16.69
Truck Driver (Single Rear Axle).....	\$ 17.50
Truck Driver (Tandem Rear Axle).....	\$ 16.91
Truck Driver, Heavy Duty....\$	17.29

WELDER.....	\$ 18.15
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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the

cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of

each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

□

U.S. DEPARTMENT OF LABOR
OFFICE OF THE SECRETARY
WASHINGTON
DECISION OF THE SECRETARY

This case is before the Department of Labor pursuant to a request for a wage predetermination as required by law applicable to the work described.

A study has been made of wage conditions in the locality and based on information available to the Department of Labor the wage rates and fringe payments listed are hereby determined by the Secretary of Labor as prevailing for the described classes for labor in accordance with applicable law.

This wage determination decision and any modifications thereof during the period prior to the stated expiration date shall be made a part of every contract for performance of the described work as provided by applicable law and regulations of the Secretary of Labor, and the wage rates and fringe payments contained in this decision, including modifications, shall be the minimums to be paid under any such contract and subcontractors on the work.


The contracting officer shall require that any class of laborers and mechanics which is not listed in the wage determination and which is to be employed under the contract, shall be classified or reclassified conformably to the wage determination, and a report of the action taken shall be sent by the Federal agency to the Secretary of Labor. In the event the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers and mechanics to be used, the question accompanied by the recommendation of the contracting officer shall be referred to the Secretary for determination.

Before using apprentices on the job the contractor shall present to the contracting officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U.S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U.S. Bureau of Apprenticeship and Training.

The contractor shall submit to the contracting officer written evidence of the established apprentice-journeyman ratios and wage in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

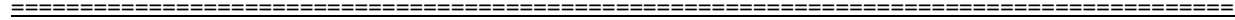
Fringe payments include medical and hospital care, compensation for injuries or illness resulting from occupational activity, unemployment benefits, life insurance, disability and sickness insurance, accident insurance (all designated as health and welfare), pensions, vacation and holiday pay, apprenticeship or other similar programs and other bona fide fringe benefits.

By direction of the Secretary of Labor



E. Irving Manger, Associate Administrator
Division of Wage Determinations
Wage and Labor Standards Administration

The following Form **FHWA-1273** titled **REQUIRED CONTRACT PROVISIONS, FEDERAL-AID CONSTRUCTION CONTRACTS** shall apply to this contract:



FHWA-1273 – Revised May 1, 2012

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

- A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

- 1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The

design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.
4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth

under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. **EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

- e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

- 4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

- 5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

- a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
- b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
- c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
- d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

- 6. **Training and Promotion:**

- a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.
- b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).
- c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
- d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

- a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.
- b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.
- c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.
- d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

- 8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.
- 9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.
- a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.
 - b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.
- 10. Assurance Required by 49 CFR 26.13(b):**
- a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.
 - b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.
- 11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.
- a. The records kept by the contractor shall document the following:
 - (1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;
 - (2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and
 - (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;
 - b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This

information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. Davis-Bacon and Related Act Provisions

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

- a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are

deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

- b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:
- (I) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
 - (II) The classification is utilized in the area by the construction industry; and
 - (II) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- (3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

- (4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
- c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

- a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship

programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

- b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.
- (2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
- (I) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;
- (II) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
- (III) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- (3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

- (4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.
- c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

- a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. **Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.
6. **Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.
7. **Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.
8. **Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.
9. **Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.
10. **Certification of eligibility.**
 - a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. **CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.
3. **Withholding for unpaid wages and liquidated damages.** The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.
4. **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).
 - a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:
 - (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
 - (2) the prime contractor remains responsible for the quality of the work of the leased employees;

- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
 - (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.
 - b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.
2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.
3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.
4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.
5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.
2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards

(29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.
- d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

- f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
- g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.
- h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.
- i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

- a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:
 - (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;
 - (2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local)

transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

- (3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and
- (4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

- a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
- b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
- c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
- d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).
- e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred,

suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

- f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.
- g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.
- h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-- Lower Tier Participants:

- 1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.
- 2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:
 - a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
 - b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE
EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals for female and minority participation, expressed in percentage terms of the Contractor's aggregate work force in each trade on all construction works in the covered area, are as follows:

Females- 6.9%

Minorities - See Attachment "A"

The goals are applicable to all the Contractor's construction work performed in the covered area, whether or not it is Federal or federally assisted. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications, set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established herein. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executives Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 workings days the award of any construction subcontract in excess of \$10,000 at any tier for construction works under this contract. The notification shall list the name, address and telephone number of the subcontractor, employer identification number, estimated dollar amount of the subcontract, estimated starting and completion dates of the subcontract and the geographical area in which the contract is to be performed.

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)**

1. As, used in this provision:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U. S. Treasury Department Form 941;
 - d. "Minority" includes:

- (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation.
 3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U. S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors and Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
 4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the coverer area. Covered construction Contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
 5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
 6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U. S. Department of Labor.
 7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

- a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, shall assign two or more women to each construction project. The Contractor shall specifically ensure that all foreman, superintendents and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites in such facilities.
- b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
- c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off the street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union, or if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
- d. Provide immediate written notification to the Director when the union or unions which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or women sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper or annual report; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents and General Foremen prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including in any news media advertisement that the Contractor is "An Equal Opportunity Employer" for minority and female, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Directs its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by

recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures and tests to be used in the selection process.

- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of Contractor's workforce.
 - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - l. Conduct, at least annually, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for such opportunities through appropriate training or other means.
 - m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - n. Ensure that all facilities and company activities are nonsegregated, except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. Goals for women have been established. However, the Contractor IS required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner, that is even though the Contractor has achieved its goals for women, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex or nation origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director will proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate and make known to the Department a responsible official as the EEO Officer to monitor all employment related activity, to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, Contractors will not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

ATTACHMENT A

<u>Economic Area</u>	<u>Goal (Percent)</u>
Virginia:	
021 Roanoke-Lynchburg, VA	
SMSA Counties:	
4640 Lynchburg, VA	19.3
VA Amherst; VA Appomattox; VA Campbell; VA Lynchburg	
6800 Roanoke, VA	10.2
VA Botetourt; VA Craig; VA Roanoke; VA Roanoke City; VA Salem	
Non-SMSA Counties	12.0
VA Alleghany; VA Augusta; VA Bath; VA Bedford; VA Bland; VA Carroll;	
VA Floyd; VA Franklin; VA Giles; VA Grayson; VA Henry; VA Highland;	
VA Montgomery; VA Nelson; VA Patrick; VA Pittsylvania; VA Pulaski;	
VA Rockbridge; VA Rockingham; VA Wythe; VA Bedford City; VA Buena	
Vista:	
VA Clifton Forge; VA Covington; VA Danville; VA Galax; VA Harrisonburg;	
VA Lexington; VA Martinsville; VA Radford; VA Staunton; VA Waynesboro;	
WV Pendleton.	
022 Richmond, VA	
SMSA Counties:	
6140 Petersburg - Colonial Heights - Hopewell, VA	30.6
VA Dinwiddie; VA Prince George; VA Colonial Heights; VA Hopewell;	
VA Petersburg.	
6760 Richmond, VA	24.9

	VA Charles City; VA Chesterfield; VA Goochland, VA Hanover; VA Henrico; VA New Kent; VA Powhatan; VA Richmond.	
	Non-SMSA Counties	27.9
	VA Albemarle; VA Amelia; VA Brunswick; VA Buckingham, VA Caroline; VA Charlotte; VA Cumberland; VA Essex; VA Fluvanna; VA Greene; VA Greensville; VA Halifax; VA King and Queen; VA King William; VA Lancaster; VA Louisa; VA Lunenburg; VA Madison; VA Mecklenburg; VA Northumberland; VA Nottoway; VA Orange; VA Prince Edward; VA Richmond VA Sussex; VA Charlottesville; VA Emporia; VA South Boston	
023	Norfolk - Virginia Beach - Newport News VA:	
	SMSA Counties:	
	5680 Newport News- Hampton, VA	27.1
	VA Gloucester; VA James City; VA York; VA Hampton; VA Newport News; VA Williamsburg.	
	5720 Norfolk - Virginia Beach - Portsmouth, VA - NC	26.6
	NC Currituck; VA Chesapeake; VA Norfolk; VA Portsmouth; VA Suffolk; VA Virginia Beach.	
	Non-SMSA Counties	29.7
	NC Bertie; NC Camden; NC Chowan; NC Gates; NC Hertford; NC Pasquotank; NC Perquimans; VA Isle of Wight; VA Matthews; VA Middlesex; VA Southampton; VA Surry; VA Franklin.	
Washington, DC:		
020	Washington, DC.	
	SMSA Counties:	
	8840 Washington, DC - MD - VA	28.0
	DC District of Columbia; MD Charles; MD Montgomery MD Prince Georges; VA Arlington; VA Fairfax; VA Loudoun; VA Prince William VA Alexandria; VA Fairfax City; VA Falls Church.	
	Non- SMSA Counties	25.2
	MD Calvert; MD Frederick; MD St. Marys; MD Washington; VA Clarke; VA Culpeper; VA Fauquier; VA Frederick; VA King George; VA Page; VA Rappahannock; VA Shenandoah; VA Spotsylvania; VA Stafford; VA Warren; VA Westmoreland; VA Fredericksburg; VA Winchester WV Berkeley; WV Grant; WV Hampshire; WV Hardy; WV Jefferson; WV Morgan.	
Tennessee:		
052	Johnson City - Kingsport - Bristol, TN - VA	
	SMSA Counties:	
	3630 Johnson City - Kingsport -Bristol, TN-VA	2.6
	TN Carter; TN Hawkins; TN Sullivan; TN Washington; VA Scott: VA Washington; VA Bristol.	
	Non-SMSA Counties	3.2
	TN Greene; TN Johnson; VA Buchanan; VA Dickenson; VA Lee; VA Russell; VA Smyth; VA Tazewell; VA Wise; VA Norton; WV McDowell; WV Mercer.	
Maryland:		
019	Baltimore MD	
	Non-SMSA Counties	23.6
	MD Caroline; MD Dorchester; MD Kent; MD Queen Annes; MD Somerset; MD Talbot; MD Wicomico; MD Worchester; VA Accomack; VA Northampton.	

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 107.15

December 10, 2010

Section 107.15 of the Specifications is replaced by the following:

Section 107.15—Use of Disadvantaged Business Enterprises (DBEs)

A. Disadvantaged Business Enterprise (DBE) Program Requirements

Any Contractor, subcontractor, supplier, DBE firm, and contract surety involved in the performance of work on a federal-aid contract shall comply with the terms and conditions of the United States Department of Transportation (USDOT) DBE Program as the terms appear in Part 26 of the Code of Federal Regulations (49 CFR as amended), the USDOT DBE Program regulations; and the Virginia Department of Transportation's (VDOT or the Department) Road and Bridge Specifications and DBE Program rules and regulations.

For the purposes of this provision, Contractor is defined as the Prime Contractor of the contract; and sub-contractor is defined as any DBE supplier, manufacturer, or subcontractor performing work or furnishing material, supplies or services to the contract. The Contractor shall physically include this same contract provision in every supply or work/service subcontract that it makes or executes with a subcontractor having work for which it intends to claim credit.

In accordance with 49 CFR Part 26 and VDOT's DBE Program requirements, the Contractor, for itself and for its subcontractors and suppliers, whether certified DBE firms or not, shall commit to complying fully with the auditing, record keeping, confidentiality, cooperation, and anti-intimidation or retaliation provisions contained in those federal and state DBE Program regulations. By bidding on this contract, and by accepting and executing this contract, the Contractor agrees to assume these contractual obligations and to bind the Contractor's subcontractors contractually to the same at the Contractor's expense.

The Contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award, administration, and performance of this contract. Failure by the Contractor to carry out these requirements is a material breach of this contract, which will result in the termination of this contract or other such remedy, as VDOT deems appropriate.

All administrative remedies noted in this provision are automatic unless the Contractor exercises the right of appeal within the required timeframe(s) specified herein. Appeal requirements, processes, and procedures shall be in accordance with guidelines stated herein and current at the time of the proceedings. Where applicable, the Department will notify the Contractor of any changes to the appeal requirements, processes, and procedures after receiving notification of the Contractor's desire to appeal.

All time frames referenced in this provision are expressed in business days unless otherwise indicated. Should the expiration of any deadline fall on a weekend or holiday, such deadline will automatically be extended to the next normal business day.

B. DBE Certification

The only DBE firms eligible to perform work on a federal-aid contract for DBE contract goal credit are firms certified as Disadvantaged Business Enterprises by the Virginia Department of Minority Business Enterprise (DMBE) or the Metropolitan Washington Airports Authority (MWAA) in accordance with federal and VDOT guidelines. DBE firms must be certified in the specific work listed for DBE contract goal credit. A directory listing of certified DBE firms can be obtained from the Virginia Department of Minority Business Enterprise and the Metropolitan Washington Airports Authority Internet websites: <http://www.dmbv.virginia.gov/> ; <http://mwaa.com/362.htm>

C. Bank Services

The Contractor and each subcontractor are encouraged to use the services of banks owned and controlled by socially and economically disadvantaged individuals. Such banking services and the fees charged for services typically will not be eligible for DBE Program contract goal credit. Such information is available from the VDOT's Internet Civil Rights Division website:

<http://insidevdot/C7/Civil%20Rights/default.aspx>

D. DBE Program-Related Certifications Made by Bidders\Contractors

By submitting a bid and by entering into any contract on the basis of that bid, the bidder/Contractor certifies to each of the following DBE Program-related conditions and assurances:

1. That the management and bidding officers of its firm agree to comply with the bidding and project construction and administration obligations of the USDOT DBE Program requirements and regulations of 49 CFR Part 26 as amended, and VDOT's Road and Bridge Specifications and DBE Program requirements and regulations.
2. Under penalty of perjury and other applicable penal law that it has complied with the DBE Program requirements in submitting the bid, and shall comply fully with these requirements in the bidding, award, and execution of the contract.
3. To ensure that DBE firms have been given full and fair opportunity to participate in the performance of the contract. The bidder certifies that all reasonable steps were, and will be, taken to ensure that DBE firms had, and will have, an opportunity to compete for and perform work on the contract. The bidder further certifies that the bidder shall not discriminate on the basis of race, color, age, national origin, or sex in the performance of the contract or in the award of any subcontract. Any agreement between a bidder and a DBE whereby the DBE promises not to provide quotations for performance of work to other bidders is prohibited.
4. As a bidder, good faith efforts were made to obtain DBE participation in the proposed contract at or above the goal for DBE participation established by VDOT. It has submitted as a part of its bid true, accurate, complete, and detailed documentation of the good faith efforts it performed to meet the contract goal for DBE participation. The bidder, by signing and submitting its bid, certifies the DBE participation information submitted within the stated time thereafter is true, correct, and complete, and that the information provided includes the names of all DBE firms that will participate in the contract, the specific line item(s) that each listed DBE firm will perform, and the creditable dollar amounts of the participation of each listed DBE. The specific line item must reference the VDOT line number and item number contained in the proposal.

5. The bidder further certifies, by signing its bid, it has committed to use each DBE firm listed for the specific work item shown to meet the contract goal for DBE participation. Award of the contract will be conditioned upon meeting these and other listed requirements of 49 CFR Part 26.53 and the contract documents. By signing the bid, the bidder certifies on work that it proposes to sublet; it has made good faith efforts to seek out and consider DBEs as potential subcontractors. The bidder shall contact DBEs to solicit their interest, capability, and prices in sufficient time to allow them to respond effectively, and shall retain on file proper documentation to substantiate its good faith efforts. Award of the contract will be conditioned upon meeting these and other listed requirements of 49 CFR Part 26.53 and the contract documents.
6. Once awarded the contract, the Contractor shall make good faith efforts to utilize DBE firms to perform work designated to be performed by DBEs at or above the amount or percentage of the dollar value specified in the bidding documents. Further, the Contractor understands it shall not unilaterally terminate, substitute for, or replace any DBE firm that was designated in the executed contract in whole or in part with another DBE, any non-DBE firm, or with the Contractor's own forces or those of an affiliate of the Contractor without the prior written consent of VDOT as set out within the requirements of this provision.
7. Once awarded the contract, the Contractor shall designate and make known to the Department a liaison officer who is assigned the responsibility of administering and promoting an active and inclusive DBE program as required by 49 CFR Part 26 for DBEs. The designation and identity of this officer need be submitted only once by the Contractor during any twelve (12) month period at the preconstruction conference for the first contract the Contractor has been awarded during that reporting period. The Department will post such information for informational and administrative purposes at VDOT's Internet Civil Rights Division website.
8. Once awarded the contract, the Contractor shall comply fully with all regulatory and contractual requirements of the USDOT DBE Program, and that each DBE firm participating in the contract shall fully perform the designated work items with the DBE's own forces and equipment under the DBE's direct supervision, control, and management. Where a contract exists and where the Contractor, DBE firm, or any other firm retained by the Contractor has failed to comply with federal or VDOT DBE Program regulations and/or their requirements on that contract, VDOT has the authority and discretion to determine the extent to which the DBE contract regulations and/or requirements have not been met, and will assess against the Contractor any remedies available at law or provided in the contract in the event of such a contract breach.
9. In the event a bond surety assumes the completion of work, if for any reason VDOT has terminated the prime Contractor, the surety shall be obligated to meet the same DBE contract terms and requirements as were required of the original prime Contractor in accordance with the requirements of this specification.

E. Disqualification of Bidder

Bidders may be disqualified from bidding for failure to comply with the requirements of this Special Provision, the contract specifications, and VDOT Road and Bridge Specifications.

F. Bidding Procedures

The following bidding procedures shall apply to the contract for DBE Program compliance purposes:

- 1. Contract Goal, Good Faith Efforts Specified:** All bidders evidencing the attainment of DBE goal commitment equal to or greater than the required DBE goal established for the project must submit completed Form C-111, Minimum DBE Requirements, and Form C-48, Subcontractor/Supplier Solicitation and Utilization, as a part of the bid documents.

Form C-111 may be submitted electronically or may be faxed to the Department, but in no case shall the bidder's Form C-111 be received later than 10:00 a.m. the next business day after the time stated in the bid proposal for the receipt of bids. Form C-48 must be received within ten (10) business days after the bid opening.

If, at the time of submitting its bid, the bidder knowingly cannot meet or exceed the required DBE contract goal, it shall submit Form C-111 exhibiting the DBE participation it commits to attain as a part of its bid documents. The bidder shall then submit Form C-49, DBE Good Faith Efforts Documentation, within two (2) business days after the bid opening.

The lowest responsive and responsible bidder must submit its properly executed Form C-112, Certification of Binding Agreement, within three (3) business days after the bids are received. DBEs bidding as prime contractors are not required to submit Form C-112 unless they are utilizing other DBEs as subcontractors.

If, after review of the apparent lowest bid, VDOT determines the DBE requirements have not been met, the apparent lowest successful bidder must submit Form C-49, DBE Good Faith Efforts Documentation, which must be received by the Contract Engineer within two (2) business days after official notification of such failure to meet the aforementioned DBE requirements.

Forms C-48, C-49, C-111, and C-112 can be obtained from the VDOT website at:
<http://vdotforms.vdot.virginia.gov/>

Instructions for submitting Form C-111 can be obtained from the VDOT website at:
http://www.virginiadot.org/business/resources/const/Exp_DB_E_Compmitments.pdf

- 2. Bid Rejection:** The failure of a bidder to submit the required documentation within the timeframes specified in the **Contract Goal, Good Faith Efforts Specified** section of this Special Provision may be cause for rejection of that bidder's bid.

If the lowest bidder is rejected for failure to submit the required documentation in the specified time frames, the Department may award the work to the next lowest bidder, or re-advertise the proposed work at a later date or proceed otherwise as determined by the Commonwealth.

- 3. Good Faith Efforts Described:** In order to award a contract to a bidder that has failed to meet DBE contract goal requirements, VDOT will determine if the bidder's efforts were adequate good faith efforts, and if given all relevant circumstances, those efforts were made actively and aggressively to meet the DBE requirements. Efforts to obtain DBE participation are not good faith efforts if they could not reasonably be expected to produce a level of DBE participation sufficient to meet the DBE Program and contract goal requirements.

Good faith efforts may be determined through use of the following list of the types of actions the bidder may make to obtain DBE participation. This is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts of similar intent may be relevant in appropriate cases:

- (a) Soliciting through reasonable and available means, such as but not limited to, attendance at pre-bid meetings, advertising, and written notices to DBEs who have the capability to perform the work of the contract. Examples include: advertising in at least one daily/weekly/monthly newspaper of general circulation, as applicable; phone contact with a completely documented telephone log, including the date and time called, contact person, or voice mail status; and internet contacts with supporting documentation, including dates advertised. The bidder shall solicit this interest no less than five (5) business days before the bids are due so that the solicited DBEs have enough time to reasonably respond to the solicitation. The bidder shall determine with certainty if the DBEs are interested by taking reasonable steps to follow up initial solicitations as evidenced by documenting such efforts as requested on Form C-49, DBE Good Faith Efforts Documentation.
- (b) Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Contractor might otherwise prefer to completely perform all portions of this work in its entirety or use its own forces;
- (c) Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner, which will assist the DBEs in responding to a solicitation;
- (d) Negotiating for participation in good faith with interested DBEs;
 - 1. Evidence of such negotiation shall include the names, addresses, and telephone numbers of DBEs that were considered; dates DBEs were contacted; a description of the information provided regarding the plans, specifications, and requirements of the contract for the work selected for subcontracting; and, if insufficient DBE participation seems likely, evidence as to why additional agreements could not be reached for DBEs to perform the work;
 - 2. A bidder using good business judgment should consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and should take a firm's price, qualifications, and capabilities, as well as contract goals, into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not sufficient reason for a bidder's failure to meet the contract goal for DBE participation, as long as such costs are reasonable and comparable to costs customarily appropriate to the type of work under consideration. Also, the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make diligent good faith efforts. Bidders are not, however, required to accept higher quotes from DBEs if the price difference can be shown by the bidder to be excessive, unreasonable, or greater than would normally be expected by industry standards;
- (e) A bidder cannot reject a DBE as being unqualified without sound reasons based on a thorough investigation of the DBE's capabilities. The DBE's standing within its industry, membership in specific groups, organizations, associations, and political or social affiliations, and union vs. non-union employee status are not legitimate causes

for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal for DBE participation;

- (f) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by VDOT or by the bidder/Contractor;
- (g) Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services subject to the restrictions contained in these provisions;
- (h) Effectively using the services of appropriate personnel from VDOT and from DMBE; available minority/women community or minority organizations; contractors' groups; local, state, and Federal minority/ women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and utilization of qualified DBEs.

G. Documentation and Administrative Reconsideration of Good Faith Efforts

During Bidding: As described in the **Contract Goal, Good Faith Efforts Specified** section of this Special Provision, the bidder must provide Form C-49, DBE Good Faith Efforts Documentation, of its efforts made to meet the DBE contract goal as proposed by VDOT within the time frame specified in this provision. The means of transmittal and the risk for timely receipt of this information shall be the responsibility of the bidder. The bidder shall attach additional pages to the certification, if necessary, in order to fully detail specific good faith efforts made to obtain the DBE firms participation in the proposed contract work.

However, regardless of the DBE contract goal participation level proposed by the bidder or the extent of good faith efforts shown, all bidders shall timely and separately file their completed and executed forms C-111, C-112, C-48, and C-49, as aforementioned, or face potential bid rejection.

If a bidder does not submit its completed and executed forms C-111, or C-112, when required by this Special Provision, the bidder's bid will be considered non-responsive and may be rejected.

Where the Department upon initial review of the bid results determines the apparent low bidder has failed or appears to have failed to meet the requirements of the **Contract Goal, Good Faith Efforts Specified** section of this Special Provision and has failed to adequately document that it made a good faith effort to achieve sufficient DBE participation as specified in the bid proposal, that firm upon notification of the Department's initial determination will be offered the opportunity for administrative reconsideration before VDOT rejects that bid as non-responsive. The bidder shall address such request for reconsideration in writing to the Contract Engineer within five (5) business days of receipt of notification by the Department and shall be given the opportunity to discuss the issue and present its evidence in person to the Administrative Reconsideration Panel. The Administrative Reconsideration Panel will be made up of VDOT Division Administrators or their designees, none of who took part in the initial determination that the bidder failed to make the goal or make adequate good faith efforts to do so. After reconsideration, VDOT shall notify the bidder in writing of its decision and explain the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so.

If, after reconsideration, the Department determines the bidder has failed to meet the requirements of the contract goal and has failed to make adequate good faith efforts to achieve the level of DBE participation as specified in the bid proposal, the bidder's bid will be rejected.

If sufficient documented evidence is presented to demonstrate that the apparent low bidder made reasonable good faith efforts, the Department will award the contract and reduce the DBE requirement to the actual commitment identified by the lowest successful bidder at the time of its bid. The Contractor is still encouraged to seek additional DBE participation during the life of the contract.

However, such action will not relieve the Contractor of its responsibility for complying with the reduced DBE requirement during the life of the contract or any administrative sanctions as may be appropriate.

During the Contract: If a DBE, through no fault of the Contractor, is unable or unwilling to fulfill his agreement with the Contractor, the Contractor shall immediately notify the Department and provide all relevant facts. If a Contractor relieves a DBE subcontractor of the responsibility to perform work under their subcontract, the Contractor is encouraged to take the appropriate steps to obtain a DBE to perform an equal dollar value of the remaining subcontracted work. In such instances, the Contractor is expected to seek DBE participation towards meeting the goal during the performance of the contract.

If the Contractor fails to conform to the schedule of DBE participation as shown on the progress schedule, or at any point at which it is clearly evident that the remaining dollar value of allowable credit for performing work is insufficient to obtain the scheduled participation, and the Contractor has not taken the preceding actions, the Contractor and any aforementioned affiliates may be subject to disallowance of DBE credit until such time as conformance with the schedule of DBE participation is achieved.

Project Completion: If the Contractor fails upon completion of the project to meet the required participation, the Contractor and any prime contractual affiliates, as in the case of a joint venture, may be enjoined from bidding as a prime Contractor, or participating as a subcontractor on VDOT projects for a period of 90 days.

Prior to enjoinder from bidding or denial to participate as a subcontractor for failure to comply with participation requirements, as provided hereinbefore, the Contractor may submit documentation to the State Construction Engineer to substantiate that failure was due solely to quantitative underrun(s), elimination of items subcontracted to DBEs, or to circumstances beyond their control, and that all feasible means have been used to obtain the required participation. The State Construction Engineer upon verification of such documentation shall make a determination whether or not the Contractor has met the requirements of the contract.

If it is determined that the aforementioned documentation is insufficient or the failure to meet required participation is due to other reasons, the Contractor may request an appearance before the Administrative Reconsideration Panel to establish that all feasible means were used to meet such participation requirements. The decision of the Administrative Reconsideration Panel shall be administratively final. If the decision is made to enjoin the Contractor from bidding on other VDOT work as described herein, the enjoinder period will begin upon the Contractor's failure to request a hearing within the designated time frame or upon the Administrative Reconsideration Panel's decision to enjoin, as applicable.

H. DBE Participation for Contract Goal Credit

DBE participation on the contract will count toward meeting the DBE contract goal in accordance with the following criteria:

1. Cost-plus subcontracts will not be considered to be in accordance with normal industry practice and will not normally be allowed for credit.
2. The applicable percentage of the total dollar value of the contract or subcontract awarded to the DBE will be counted toward meeting the contract goal for DBE participation in accordance with the **DBE Program-Related Certifications Made by Bidders\Contractors** section of this Special Provision for the value of the work, goods, or services that are actually performed or provided by the DBE firm itself or subcontracted by the DBE to other DBE firms.
3. When a DBE performs work as a participant in a joint venture with a non-DBE firm, the Contractor may count toward the DBE goal only that portion of the total dollar value of the contract equal to the distinctly defined portion of the contract work that the DBE has performed with the DBE's own forces or in accordance with the provisions of this Section. The Department shall be contacted in advance regarding any joint venture involving both a DBE firm and a non-DBE firm to coordinate Department review and approval of the joint venture's organizational structure and proposed operation where the Contractor seeks to claim the DBE's credit toward the DBE contract goal.
4. When a DBE subcontracts part of the work of the contract to another firm, the value of that subcontracted work may be counted toward the DBE contract goal only if the DBE's subcontractor at a lower tier is a certified DBE. Work that a DBE subcontracts to either a non-DBE firm or to a non-certified DBE firm will not count toward the DBE contract goal. The cost of supplies and equipment a DBE subcontractor purchases or leases from the prime Contractor or the prime's affiliated firms will not count toward the contract goal for DBE participation.
5. The Contractor may count expenditures to a DBE subcontractor toward the DBE contract goal only if the DBE performs a Commercially Useful Function (CUF) on that contract.
6. A Contractor may not count the participation of a DBE subcontractor toward the Contractor's final compliance with the DBE contract goal obligations until the amount being counted has actually been paid to the DBE. A Contractor may count sixty (60) percent of its expenditures actually paid for materials and supplies obtained from a DBE certified as a regular dealer, and one hundred (100) percent of such expenditures actually paid for materials and supplies obtained from a certified DBE manufacturer.
 - (a) For the purposes of this Special Provision, a regular dealer is defined as a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles, or equipment required and used under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a regular dealer, the DBE firm shall be an established business that regularly engages, as its principal business and under its own name, in the purchase and sale or lease of the products or equipment in question. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions will not be considered regular dealers.
 - (b) A DBE firm may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business where it keeps such items in stock if the DBE both owns and operates distribution equipment for the products it sells and provides for the contract work.

Any supplementation of a regular dealer's own distribution equipment shall be by a long-term lease agreement and not on an *ad hoc* or contract-by-contract basis to be eligible for credit to meet the DBE contract goal.

- (c) If a DBE regular dealer is used for DBE contract goal credit, no additional credit will be given for hauling or delivery to the project site goods or materials sold by that DBE regular dealer. Those delivery costs shall be deemed included in the price charged for the goods or materials by the DBE regular dealer, who shall be responsible for their distribution.
- (d) For the purposes of this Special Provision, a manufacturer will be defined as a firm that operates or maintains a factory or establishment that produces on the premises the materials, supplies, articles, or equipment required under the contract and of the general character described by the project specifications. A manufacturer shall include firms that produce finished goods or products from raw or unfinished material, or purchase and substantially alter goods and materials to make them suitable for construction use before reselling them.
- (g) A Contractor may count toward the DBE contract goal the following expenditures to DBE firms that are not regular dealers or manufacturers for DBE program purposes:
 - 1. The entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant or managerial services, or for providing bonds or insurance specifically required for the performance of the federal-aid contract, if the fee is reasonable and not excessive or greater than would normally be expected by industry standards for the same or similar services.
 - 2. The entire amount of that portion of the construction contract that is performed by the DBE's own forces and equipment under the DBE's supervision. This includes the cost of supplies and materials ordered and paid for by the DBE for contract work, including supplies purchased or equipment leased by the DBE, except supplies and equipment a DBE subcontractor purchases or leases from the prime Contractor or its affiliates.
- (h) A Contractor may count toward the DBE contract goal one hundred (100) percent of the fees paid to a DBE trucker or hauler for the delivery of material and supplies required on the project job site, but not for the cost of those materials or supplies themselves, provided that the trucking or hauling fee is determined by VDOT to be reasonable, as compared with fees customarily charged by non-DBE firms for similar services. A Contractor shall not count costs for the removal or relocation of excess material from or on the job site when the DBE trucking company is not the manufacturer of or a regular dealer in those materials and supplies. The DBE trucking firm shall also perform a Commercially Useful Function (CUF) on the project and not operate merely as a pass through for the purposes of gaining credit toward the DBE contract goal. Prior to submitting a bid, the Contractor shall determine, or contact the VDOT Civil Rights Division or its district Offices for assistance in determining, whether a DBE trucking firm will meet the criteria for performing a CUF on the project. See section on **Miscellaneous DBE Program Requirements; Factors used to Determine if a DBE Trucking Firm is Performing a CUF.**
- (i) The Contractor will receive DBE contract goal credit for the fees or commissions charged by and paid to a DBE broker who arranges or expedites sales, leases, or other project work or service arrangements provided that those fees are determined by VDOT to be reasonable and not excessive as compared with fees customarily charged by non-DBE firms for similar services. For the purposes of this Special

Provision, a broker is defined as a person or firm that regularly engages in arranging for delivery of material, supplies, and equipment, or regularly arranges for the providing of project services as a course of routine business but does not own or operate the delivery equipment necessary to transport materials, supplies, or equipment to or from a job site.

I. Performing a Commercially Useful Function (CUF)

No credit toward the DBE contract goal will be allowed for contract payments or expenditures to a DBE firm if that DBE firm does not perform a CUF on that contract. A DBE performs a CUF when the DBE is solely responsible for execution of a distinct element of the contract work and the DBE actually performs, manages, and supervises the work involved with the firm's own forces or in accordance with the provisions of the **DBE Participation for Contract Goal Credit** section of this Special Provision. To perform a CUF the DBE alone shall be responsible and bear the risk for the material and supplies used on the contract, selecting a supplier or dealer from those available, negotiating price, determining quality and quantity, ordering the material and supplies, installing those materials with the DBE's own forces and equipment, and paying for those materials and supplies. The amount the DBE firm is to be paid under the contract shall be commensurate with the work the DBE actually performs and the DBE credit claimed for the DBE's performance.

Monitoring CUF Performance: It shall be the Contractor's responsibility to ensure that all DBE firms selected for subcontract work on the contract, for which he seeks to claim credit toward the contract goal, perform a CUF. Further, the Contractor is responsible for and shall ensure that each DBE firm fully performs the DBE's designated tasks with the DBE's own forces and equipment under the DBE's own direct supervision and management or in accordance with the provisions of the **DBE Participation for Contract Goal Credit** section of this Special Provision. For the purposes of this provision the DBE's equipment will mean either equipment directly owned by the DBE as evidenced by title, bill of sale or other such documentation, or leased by the DBE, and over which the DBE has control as evidenced by the leasing agreement from a firm not owned in whole or part by the prime Contractor or an affiliate of the Contractor under this contract.

VDOT will monitor the Contractor's DBE involvement during the performance of the contract. However, VDOT is under no obligation to warn the Contractor that a DBE's participation will not count toward the goal.

DBEs Must Perform a Useful and Necessary Role in Contract Completion: A DBE does not perform a commercially useful function if the DBE's role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation.

DBEs Must Perform The Contract Work With Their Own Workforces: If a DBE does not perform and exercise responsibility for at least thirty (30) percent of the total cost of the DBE's contract with the DBE's own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involve, VDOT will presume that the DBE is not performing a CUF and such participation will not be counted toward the contract goal.

VDOT Makes Final Determination On Whether a CUF Is Performed: VDOT has the final authority to determine whether a DBE firm has performed a CUF on a federal-aid contract. To determine whether a DBE is performing or has performed a CUF, VDOT will evaluate the amount of work subcontracted by that DBE firm or performed by other firms and the extent of the involvement of other firms' forces and equipment. Any DBE work performed by the Contractor or by employees or equipment of the Contractor shall be subject to disallowance

under the DBE Program, unless the independent validity and need for such an arrangement and work is demonstrated.

J. Verification of DBE Participation and Imposed Damages

Within fourteen days after contract execution, the Contractor shall submit to the Responsible Engineer, with a copy to the District Civil Rights Office (DCRO), a fully executed subcontract agreement for each DBE used to claim credit in accordance with the requirements stated on Form C-112. The subcontract agreement shall be executed by both parties stating the work to be performed, the details or specifics concerning such work, and the price which will be paid to the DBE subcontractor. Because of the commercial damage that the Contractor and its DBE subcontractor could suffer if their subcontract pricing, terms, and conditions were known to competitors, the Department staff will treat subcontract agreements as proprietary Contractor trade secrets with regard to Freedom of Information Act requests. In lieu of subcontract agreements, purchase orders may be submitted for haulers, suppliers, and manufacturers. These too, will be treated confidentially and protected. Such purchase orders must contain, as a minimum, the following information: authorized signatures of both parties; description of the scope of work to include contract item numbers, quantities, and prices; and required federal contract provisions.

The Contractor shall also furnish, and shall require each subcontractor to furnish, information relative to all DBE involvement on the project for each quarter during the life of the contract in which participation occurs and verification is available. The information shall be indicated on Form C-63, DBE and SWAM Payment Compliance Report. The department reserves the right to request proof of payment via copies of cancelled checks with appropriate identifying notations. Failure to provide Form C-63 to the District Civil Rights Office (DCRO) within five (5) business days after the reporting period may result in delay of approval of the Contractor's monthly progress estimate for payment. The names and certification numbers of DBE firms provided by the Contractor on the various forms indicated in this Special Provision shall be exactly as shown on the DMBE's or MWAA's latest list of certified DBEs. Signatures on all forms indicated herein shall be those of authorized representatives of the Contractor as shown on the Prequalification Application, Form C-32 or the Prequalification/Certification Renewal Application, Form C-32A, or authorized by letter from the Contractor. If DBE firms are used which have not been previously documented with the Contractor's bid and for which the Contractor now desires to claim credit toward the project goal, the Contractor shall be responsible for submitting necessary documentation in accordance with the procedures stipulated in this Special Provision to cover such work prior to the DBE beginning work.

Form C-63 can be obtained from the VDOT website at: <http://vdotforms.vdot.virginia.gov/>

The Contractor shall submit to the Responsible Engineer its progress schedule with a copy to the DCRO, as required by Section 108.03 of the Specifications or other such specific contract scheduling specification that may include contractual milestones, i.e., monthly or VDOT requested updates. The Contractor shall include a narrative of applicable DBE activities relative to work activities of the Contractor's progress schedule, including the approximate start times and durations of all DBE participation to be claimed for credit that shall result in full achievement of the DBE goal required in the contract.

On contracts awarded on the basis of good faith efforts, narratives or other agreeable format of schedule information requirements and subsequent progress determination shall be based on the commitment information shown on the latest Form C-111 as compared with the appropriate Form C-63.

Prior to beginning any major component or quarter of the work, as applicable, in which DBE work is to be performed, the Contractor shall furnish a revised Form C-111 showing the name(s) and certification number(s) of any current DBEs not previously submitted who will

perform the work during that major component or quarter for which the Contractor seeks to claim credit toward the contract DBE goal. The Contractor shall obtain the prior approval of the Department for any assistance it may provide to the DBE beyond its existing resources in executing its commitment to the work in accordance with the requirements listed in the **Good Faith Efforts Described** section of this Special Provision. If the Contractor is aware of any assistance beyond a DBE's existing resources that the Contractor, or another subcontractor, may be contemplating or may deem necessary and that have not been previously approved, the Contractor shall submit a new or revised narrative statement for VDOT's approval prior to assistance being rendered.

If the Contractor fails to comply with correctly completing and submitting any of the required documentation requested by this provision within the specified time frames, the Department will withhold payment of the monthly progress estimate until such time as the required submissions are received VDOT. Where such failures to provide required submittals or documentation are repeated the Department will move to enjoin the Contractor and any prime contractual affiliates, as in the case of a joint venture, from bidding as a prime Contractor, or participating as a subcontractor on VDOT projects until such submissions are received.

K. Documentation Required for Semi-final Payment

On those projects nearing completion, the Contractor must submit Form C-63 marked "Semi-Final" within twenty (20) days after the submission of the last regular monthly progress estimate to the DCRO. The form must include each DBE used on the contract work and the work performed by each DBE. The form shall include the actual dollar amount paid to each DBE for the accepted creditable work on the contract. The form shall be certified under penalty of perjury, or other applicable law, to be accurate and complete. VDOT will use this certification and other information available to determine applicable DBE credit allowed to date by VDOT and the extent to which the DBEs were fully paid for that work. The Contractor shall acknowledge by the act of filing the form that the information is supplied to obtain payment regarding a federal participation contract. A letter of certification, signed by both the prime Contractor and appropriate DBEs, will accompany the form, indicating the amount, including any retainage, if present, that remains to be paid to the DBE(s).

L. Documentation Required for Final Payment

On those projects that are complete, the Contractor shall submit a final Form C-63 marked "Final" to the DCRO, within thirty (30) days of the final estimate. The form must include each DBE used on the contract and the work performed by each DBE. The form shall include the actual dollar amount paid to each DBE for the creditable work on the contract. VDOT will use this form and other information available to determine if the Contractor and DBEs have satisfied the DBE contract goal percentage specified in the contract and the extent to which credit was allowed. The Contractor shall acknowledge by the act of signing and filing the form that the information is supplied to obtain payment regarding a federal participation contract.

M. Prompt Payment Requirements

The Contractor shall make prompt and full payment to the subcontractor(s) of any retainage held by the prime Contractor after the subcontractor's work is satisfactorily completed.

For purposes of this Special Provision, a subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished, documented, and accepted as required by the contract documents by VDOT. When VDOT has made partial acceptance of a portion of the prime contract, the Department will consider the work of any subcontractor covered by that partial acceptance to be satisfactorily completed. Payment will

be made in accordance with the requirements of Section 107.01, Section 109.08, and Section 109.09 of the Specifications.

Upon VDOT's payment of the subcontractor's portion of the work as shown on the monthly progress estimate and the receipt of payment by the Contractor for such work, the Contractor shall make compensation in full to the subcontractor for that portion of the work satisfactorily completed and accepted by the Department. For the purposes of this Special Provision, payment of the subcontractor's portion of the work shall mean the Contractor has issued payment in full, less agreed upon retainage, if any, to the subcontractor for that portion of the subcontractor's work that VDOT paid to the Contractor on the monthly progress estimate.

The Contractor shall make payment of the subcontractor's portion of the work within seven (7) days of the receipt of payment from VDOT in accordance with the requirements of Section 107.01, Section 109.08, and Section 109.09 of the Specifications.

If the Contractor fails to make payment for the subcontractor's portion of the work within the time frame specified herein, the subcontractor shall contact the Responsible Engineer and the Contractor's bonding company in writing. The bonding company and VDOT will investigate the cause for non-payment and, barring mitigating circumstances that would make the subcontractor ineligible for payment, ensure payment in accordance with the requirements of Section 107.01, Section 109.08, and Section 109.09 of the Specifications.

By bidding on this contract, and by accepting and executing this contract, the Contractor agrees to assume these contractual obligations, and to bind the Contractor's subcontractors contractually to those prompt payment requirements.

Nothing contained herein shall preclude the Contractor from withholding payment to the subcontractor in accordance with the terms of the subcontract in order to protect the Contractor from loss or cost of damage due to a breach of agreement by the subcontractor.

N. Miscellaneous DBE Program Requirements

Loss of DBE Eligibility: When a DBE firm has been removed from eligibility as a certified DBE firm, the following actions will be taken:

1. When a Bidder/Contractor has made a commitment to use a DBE firm that is not currently certified, thereby making the Contractor ineligible to receive DBE participation credit for work performed, and a subcontract has not been executed, the ineligible DBE firm does not count toward either the contract goal or overall goal. The Contractor shall meet the contract goal with a DBE firm that is eligible to receive DBE credit for work performed, or must demonstrate to the Contract Engineer that it has made good faith efforts to do so.
2. When a Bidder/Contractor has executed a subcontract with a certified DBE firm prior to official notification of the DBE firm's loss of eligibility, the Contractor may continue to use the firm on the contract and shall continue to receive DBE credit toward its DBE goal for the subcontractor's work.
3. When VDOT has executed a prime contract with a DBE firm that is certified at the time of contract execution but that is later ruled ineligible, the portion of the ineligible firm's performance on the contract before VDOT has issued the notice of its ineligibility shall count toward the contract goal.

Termination of DBE: If a certified DBE subcontractor is terminated, or fails, refuses, or is unable to complete the work on the contract for any reason, the Contractor must promptly

request approval to substitute or replace that firm in accordance with this section of this Special Provision.

The Contractor, as aforementioned in **DBE Program-Related Certifications Made by Bidders/Contractors**, shall notify VDOT in writing before terminating and/or replacing the DBE that was committed as a condition of contract award or that is otherwise being used or represented to fulfill DBE contract obligations during the contract performance period. Written consent from the Department for terminating the performance of any DBE shall be granted only when the Contractor can demonstrate that the DBE is unable, unwilling, or ineligible to perform its obligations for which the Contractor sought credit toward the contract DBE goal. Such written consent by the Department to terminate any DBE shall concurrently constitute written consent to substitute or replace the terminated DBE with another DBE. Consent to terminate a DBE shall not be based on the Contractor's ability to negotiate a more advantageous contract with another subcontractor whether that subcontractor is, or is not, a certified DBE.

1. All Contractor requests to terminate, substitute, or replace a certified DBE shall be in writing, and shall include the following information:
 - (a) The date the Contractor determined the DBE to be unwilling, unable, or ineligible to perform.
 - (b) The projected date that the Contractor shall require a substitution or replacement DBE to commence work if consent is granted to the request.
 - (c) A brief statement of facts describing and citing specific actions or inaction by the DBE giving rise to the Contractor's assertion that the DBE is unwilling, unable, or ineligible to perform;
 - (d) A brief statement of the affected DBE's capacity and ability to perform the work as determined by the Contractor;
 - (e) A brief statement of facts regarding actions taken by the Contractor which are believed to constitute good faith efforts toward enabling the DBE to perform;
 - (f) The current percentage of work completed on each bid item by the DBE;
 - (g) The total dollar amount currently paid per bid item for work performed by the DBE;
 - (h) The total dollar amount per bid item remaining to be paid to the DBE for work completed, but for which the DBE has not received payment, and with which the Contractor has no dispute;
 - (i) The total dollar amount per bid item remaining to be paid to the DBE for work completed, but for which the DBE has not received payment, and over which the Contractor and/or the DBE have a dispute.
2. Contractor's Written Notice to DBE of Pending Request to Terminate and Substitute with another DBE.

The Contractor shall send a copy of the "request to terminate and substitute" letter to the affected committed DBE firm, in conjunction with submitting the request to the DCRO. The affected DBE firm may submit a response letter to the Department within two (2) business days of receiving the notice to terminate from the Contractor. The affected DBE firm shall explain its position concerning performance on the committed work. The

Department will consider both the Contractor's request and the DBE's response and explanation before approving the Contractor's termination and substitution request, or determining if any action should be taken against the Contractor.

If, after making its best efforts to deliver a copy of the "request to terminate and substitute" letter, the Contractor is unsuccessful in notifying the affected DBE firm, the Department will verify that the affected, committed DBE firm is unable or unwilling to continue the contract. The Department will immediately approve the Contractor's request for a substitution.

3. Proposed Substitution of Another Certified DBE

Upon termination of a DBE, the Contractor shall use reasonable good faith efforts to replace the terminated DBE. The termination of such DBE shall not relieve the Contractor of its obligations pursuant to this section, and the unpaid portion of the terminated DBE's contract will not be counted toward the contract goal.

When a DBE substitution is necessary, the Contractor shall submit an amended Form C-111 with the name of another DBE firm, the proposed work to be performed by that firm, and the dollar amount of the work to replace the unfulfilled portion of the work of the originally committed DBE firm. The Contractor shall furnish all pertinent information including the contract I.D. number, project number, bid item, item description, bid unit and bid quantity, unit price, and total price. In addition, the Contractor shall submit documentation for the requested substitute DBE as described in this section of this Special Provision.

Should the Contractor be unable to commit the remaining required dollar value to the substitute DBE, the Contractor shall provide written evidence of good faith efforts made to obtain the substitute value requirement. The Department will review the quality, thoroughness, and intensity of those efforts. Efforts that are viewed by VDOT as merely superficial or pro-forma will not be considered good faith efforts to meet the contract goal for DBE participation. The Contractor must document the steps taken that demonstrated its good faith efforts to obtain participation as set forth in the **Good Faith Efforts Described** section of this Special Provision.

Factors Used to determine if a DBE Trucking Firm is performing a CUF:

The following factors will be used to determine whether a DBE trucking company is performing a CUF:

1. To perform a CUF the DBE trucking firm shall be completely responsible for the management and supervision of the entire trucking operation for which the DBE is responsible by subcontract on a particular contract. There shall not be a contrived arrangement, including, but not limited to, any arrangement that would not customarily and legally exist under regular construction project subcontracting practices for the purpose of meeting the DBE contract goal;
2. The DBE must own and operate at least one fully licensed, insured, and operational truck used in the performance of the contract work. This does not include a supervisor's pickup truck or a similar vehicle that is not suitable for and customarily used in hauling the necessary materials or supplies;
3. The DBE receives full contract goal credit for the total reasonable amount the DBE is paid for the transportation services provided on the contract using trucks the DBE owns, insures, and operates using drivers that the DBE employs and manages;

4. The DBE may lease trucks from another certified DBE firm, including from an owner-operator who is certified as a DBE. The DBE firm that leases trucks from another DBE will receive credit for the total fair market value actually paid for transportation services the lessee DBE firm provides on the contract;
5. The DBE may also lease trucks from a non-DBE firm, including an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit for the total value of the transportation services provided by non-DBE lessees, *not to exceed the value of transportation services provided by DBE-owned trucks on the contract*. For additional participation by non-DBE lessees, the DBE will only receive credit for the fee or commission it receives as a result of the lease arrangement.

EXAMPLE

DBE Firm X uses two (2) of its own trucks on a contract. The firm leases two (2) trucks from DBE Firm Y and six (6) trucks from non-DBE Firm Z.

		Value of Trans. Serv.
		(For Illustrative Purposes Only)
<u>Firm X</u>		
Truck 1	Owned by DBE	\$100 per day
Truck 2	Owned by DBE	\$100 per day
<u>Firm Y</u>		
Truck 1	Leased from DBE	\$110 per day
Truck 2	Leased from DBE	\$110 per day
<u>Firm Z</u>		
Truck 1	Leased from Non DBE	\$125 per day
Truck 2	Leased from Non DBE	\$125 per day
Truck 3	Leased from Non DBE	\$125 per day
Truck 4	Leased from Non DBE	\$125 per day
Truck 5	Leased from Non DBE*	\$125 per day
Truck 6	Leased from Non DBE*	\$125 per day

DBE credit would be awarded for the total transportation services provided by DBE Firm X and DBE Firm Y, and may also be awarded for the total value of transportation services by four (4) of the six (6) trucks provided by non-DBE Firm Z (not to exceed the value of transportation services provided by DBE-owned trucks).

Credit = 8 Trucks

Total Value of Transportation Services = \$820

In all, full DBE credit would be allowed for the participation of eight (8) trucks (twice the number of DBE trucks owned and leased) and the dollar value attributable to the Value of Transportation Services provided by the 8 trucks.

* With respect to the other two trucks provided by non-DBE Firm Z, DBE credit could be awarded only for the fees or commissions pertaining to those trucks that DBE Firm X receives as a result of the lease with non-DBE Firm Z.

6. For purposes of this section, the lease must indicate that the DBE firm leasing the truck has exclusive use of and control over the truck. This will not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, provided the lease gives the DBE absolute priority for and control over the use of the leased truck. Leased trucks must display the name and identification number of the DBE firm that has leased the truck at all times during the life of the lease.

Data Collection: In accordance with 49CFR Section 26.11, all firms bidding on prime contracts and bidding or quoting subcontracts on federal-aid projects shall provide the following information to the Contract Engineer annually.

- Firm name
- Firm address
- Firm's status as a DBE or non-DBE
- The age of the firm and
- The annual gross receipts of the firm

The means of transmittal and the risk for timely receipt of this information shall be the responsibility of the bidder. However, the above information can be submitted by means of the Annual Gross Receipts Survey as required in the Prequalification/Certification application.

All bidders, including DBE prime Contractor bidders, shall complete and submit to the Contract Engineer the Subcontractor/Supplier Solicitation and Utilization Form C-48 for each bid submitted; to be received within ten (10) business days after the bid opening. Failure of bidders to submit this form in the time frame specified may be cause for disqualification of the bidder and rejection of their bid in accordance with the requirements of this Special Provision, the contract specifications, and VDOT Road and Bridge specifications.

O. Suspect Evidence of Criminal Behavior

Failure of a bidder, Contractor, or subcontractor to comply with the Virginia Department of Transportation Road and Bridge Specifications and these Special Provisions wherein there appears to be evidence of criminal conduct shall be referred to the Attorney General for the Commonwealth of Virginia and/or the FHWA Inspector General for criminal investigation and, if warranted, prosecution.

Suspected DBE Fraud

In appropriate cases, VDOT will bring to the attention of the U. S. Department of Transportation (USDOT) any appearance of false, fraudulent, or dishonest conduct in connection with the DBE program, so that USDOT can take the steps, e.g., referral to the Department of Justice for criminal prosecution, referral to the USDOT Inspector General, action under suspension and debarment or Program Fraud and Civil Penalties rules provided in 49CFR Part 31.

P. Summary of Remedies for Non-Compliance with DBE Program Requirements

Failure of any bidder\Contractor to comply with the requirements of this Special Provision for Section 107.15 of the Virginia Road and Bridge Specifications, which is deemed to be a condition of bidding, or where a contract exists, is deemed to constitute a breach of contract shall be remedied in accordance with the following:

1. Disadvantaged Business Enterprise (DBE) Program Requirements

The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award, administration, and performance of this contract. Failure by the Contractor to carry out these requirements is a material breach of this contract, which will result in the termination of this contract or other such remedy, as VDOT deems appropriate.

All administrative remedies noted in this provision are automatic unless the Contractor exercises the right of appeal within the required timeframe(s) specified herein.

2. DBE Program-Related Certifications Made by Bidders\Contractors

Once awarded the contract, the Contractor shall comply fully with all regulatory and contractual requirements of the USDOT DBE Program, and that each certified DBE firm participating in the contract shall fully perform the designated work items with the DBE's own forces and equipment under the DBE's direct supervision, control, and management. Where a contract exists and where the Contractor, DBE firm, or any other firm retained by the Contractor has failed to comply with federal or VDOT DBE Program regulations and/or their requirements on that contract, VDOT has the authority and discretion to determine the extent to which the DBE contract requirements have not been met, and will assess against the Contractor any remedies available at law or provided in the contract in the event of such a contract breach.

3. Disqualification of Bidder

Bidders may be disqualified from bidding for failure to comply with the requirements of this Special Provision, the contract specifications, and VDOT Road and Bridge Specifications.

4. Bidding Procedures

The failure of a bidder to submit the required documentation within the timeframes specified in the **Contract Goal, Good Faith Efforts Specified** section of this Special Provision may be cause for rejection of that bidder's bid. If the lowest bidder is rejected for failure to submit required documentation in the specified time frames, the Department may either award the work to the next lowest bidder, or re-advertise and construct the work under contract or otherwise as determined by the Commonwealth.

In order to award a contract to a bidder that has failed to meet DBE contract goal requirements, VDOT will determine if the bidder's efforts were adequate good faith efforts, and if given all relevant circumstances, those efforts were to the extent a bidder actively and aggressively seeking to meet the requirements would make. Regardless of the DBE contract goal participation level proposed by the bidder or the extent of good faith efforts shown, all bidders shall timely and separately file their completed and executed Forms C-111, C-112, C-48, and Form C-49, as aforementioned, or face potential bid rejection. If a bidder does not submit it's completed and executed C-111, or C-112, when required by this Special Provision, the bidder's bid will be considered non-responsive and may be rejected. If, after reconsideration, the Department determines the bidder has failed to meet the requirements of the contract goal and has failed to make adequate good faith efforts to achieve the level of DBE participation as specified in the bid proposal, the bidder's bid will be rejected. If sufficient documented evidence is presented to demonstrate that the apparent low bidder made reasonable good faith efforts, the Department will award the contract and reduce the DBE requirement to the

actual commitment identified by the lowest successful bidder at the time of its bid. The Contractor is encouraged to seek additional participation during the life of the contract.

If the Contractor fails to conform to the schedule of DBE participation as shown on the progress schedule, or at any point at which it is clearly evident that the remaining dollar value of allowable credit for performing work is insufficient to obtain the scheduled participation, the Contractor and any aforementioned affiliates may be enjoined from bidding for 60 days or until such time as conformance with the schedule of DBE participation is achieved. In such instances, the Contractor is expected to seek DBE participation towards meeting the goal during the prosecution of the contract.

If the Contractor fails upon completion of the project to meet the required participation, the Contractor and any prime contractual affiliates, as in the case of a joint venture, may be enjoined from bidding as a prime Contractor, or participating as a subcontractor on VDOT projects for a period of 90 days.

Prior to enjoinder from bidding or denial to participate as a subcontractor for failure to comply with participation requirements, as provided hereinbefore, the Contractor may submit documentation to the State Construction Engineer to substantiate that failure was due solely to quantitative underrun(s) or elimination of items subcontracted to DBEs, and that all feasible means have been used to obtain the required participation. The State Construction Engineer upon verification of such documentation shall make a determination whether or not the Contractor has met the requirements of the contract.

If it is determined that the aforementioned documentation is insufficient or the failure to meet required participation is due to other reasons, the Contractor may request an appearance before the Administrative Reconsideration Panel to establish that all feasible means were used to meet such participation requirements. The decision of the Administrative Reconsideration Panel shall be administratively final. The enjoinder period will begin upon the Contractor's failure to request a hearing within the designated time frame or upon the Administrative Reconsideration Panel's decision to enjoin, as applicable.

5. Verification of DBE Participation and Imposed Damages

If the Contractor fails to comply with correctly completing and submitting any of the required documentation requested by this provision within the specified time frames, the Department will withhold payment of the monthly progress estimate until such time as the required submissions are received by VDOT. Where such failures to provide required submittals or documentation are repeated the Department will move to enjoin the Contractor and any prime contractual affiliates, as in the case of a joint venture, from bidding as a prime Contractor, or participating as a subcontractor on VDOT projects until such submissions are received.

In addition to the remedies described heretofore in this provision VDOT also exercises its rights with respect to the following remedies:

Suspect Evidence of Criminal Behavior

Failure of a bidder, Contractor, or subcontractor to comply with the Virginia Department of Transportation Road and Bridge Specifications and these Special Provisions wherein there appears to be evidence of criminal conduct shall be referred to the Attorney General for the Commonwealth of Virginia and/or the FHWA Inspector General for criminal investigation and, if warranted prosecution.

In appropriate cases, VDOT will bring to the attention of the U. S. Department of Transportation (USDOT) any appearance of false, fraudulent, or dishonest conduct in connection with the DBE program, so that USDOT can take the steps, e.g., referral to the Department of Justice for criminal prosecution, referral to the USDOT Inspector General, action under suspension and debarment or Program Fraud and Civil Penalties rules provided in 49CFR Part 31.

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
USE OF DOMESTIC MATERIAL

July 26, 2013

SECTION 102.05 PREPARATION OF BID of the Specifications is amended to include the following:

In accordance with the provisions of Section 635.410(b) of Title 23 CFR, hereinafter referred to as "Buy America", except as otherwise specified, all iron and steel products (including miscellaneous steel items such as fasteners, nuts, bolts and washers) to be permanently incorporated for use on federal aid projects shall be produced in the United States of America regardless of the percentage they exist in the manufactured product or final form they take. Therefore, "Domestically produced in the United States of America" means all manufacturing processes must occur in the United States of America, to mean, in one of the 50 States, the District of Columbia, Puerto Rico or in the territories and possessions of the United States. Manufacturing processes are defined as any process which alters or modifies the chemical content, physical size or shape or final finish of iron or steel material) such as rolling, extruding, bending, machining, fabrication, grinding, drilling, finishing, or coating whereby a raw material or a reduced iron ore material is changed, altered or transformed into a steel or iron item or product which, because of the process, is different from the original material. For the purposes of satisfying this requirement "coating" is defined as the application of epoxy, galvanizing, painting or any other such process that protects or enhances the value of the material. Materials used in the coating process need not be domestic materials.

For the purposes herein the manufacturing process is considered complete when the resultant product is ready for use as an item in the project (e.g. fencing, posts, girders, pipe, manhole covers, etc.) or is incorporated as a component of a more complex product by means of further manufacturing. Final assembly of a product may occur outside of the United States of America provided no further manufacturing process takes place.

Raw materials such as iron ore, pig iron, processed, pelletized and reduced iron ore, waste products (including scrap, that is, steel or iron no longer useful in its present form from old automobiles, machinery, pipe, railroad rail, or the like and steel trimmings from mills or product manufacturing) and other raw materials used in the production of steel and/or iron products may, however, be imported. Extracting, handling, or crushing the raw materials which are inherent to the transporting the materials for later use in the manufacturing process are exempt from Buy America. The use of foreign source steel or iron billet is not acceptable under the provisions of Buy America. For the purposes of this provision all steel or iron material not meeting the criteria as domestically produced in the United States of America will be considered as "foreign" material. All iron and steel items will be classified hereinafter as "domestic" or "foreign", identified by and subject to the provisions herein.

Domestically produced iron or steel ingots or billets shipped outside the United States of America for any manufacturing process and returned for permanent use in a project would not comply with "Buy America" requirements.

Buy America provisions do not apply to iron or steel products used temporarily in the construction of a project such as temporary sheet piling, temporary bridges, steel scaffolding, falsework or such temporary material or product or material that remains in place for the Contractor's convenience.

Section 635.410(b) of Title 23 CFR permits a minimal amount of steel or iron material to be incorporated in the permanent work on a federal-aid contract. The cost of such materials or products must not exceed one-tenth of one percent of the contract amount or \$2500, whichever is greater. The cost of the foreign iron or steel material is defined as its monetary value delivered to the job site

and supported by invoices or bill of sale to the Contractor. This delivered to site cost must include transportation, assembly, installation and testing.

In the event the total cost of all "foreign" iron and steel product or material does not exceed one-tenth of one percent of the total contract cost or \$2,500, whichever is greater, the use of such material meeting the limitations herein will not be restricted by the domestic requirements herein. However, by signing the bid, the Bidder certifies that such cost does not exceed the limits established herein.

Waivers:

With prior concurrence from Federal Highway Administration (FHWA) headquarters, the Federal Highway Division Administrator may grant a waiver to specific projects provided it can be demonstrated:

1. that the use of domestic steel or iron materials would be inconsistent with the public interest; or
2. materials or products requested for use are not produced in the United States in sufficient or reasonably available quantities and are of satisfactory quality for use in the permanent work.

The waiver request shall be submitted with supportive information to include:

1. Project number\description, project cost, waiver item, item cost, country of origin for the product, reason for the waiver, and
2. Analysis of redesign of the project using alternative or approved equal domestic products

In order to grant such a waiver the request for the waiver must be published in the Federal Register for a period not less than 15 days or greater than 60 days prior to waiving such requirement. An initial 15 day comment period to the waiver will be available to the public by means of the FHWA website: <http://www.fhwa.dot.gov/construction/contracts/waivers.cfm>. Following that initial 15 day period of review and comment the request for waiver will be published by the FHWA in the Federal Register. The effective date of the FHWA finding, either to approve or deny the waiver request, will be 15 days following publication in the Federal Register.

Only the FHWA Administrator may grant nationwide waivers which still are subject to the public rulemaking and review process.

Alternative Bidding Procedures:

An alternative bidding procedure may be employed to justify the use of foreign iron and/or steel. To qualify under this procedure the total project is bid using two alternatives, one based on the use of domestic products and the other, the use of corresponding foreign source steel and/or iron materials.

In accordance with the provisions of Section 103.02 the Contract will be awarded to the lowest responsive and responsible bidder who submits the lowest total bid based on furnishing domestic iron or steel unless such total exceeds the lowest total bid based on furnishing foreign iron and/or steel by more than 25 percent, in which case the award will be made to the lowest responsive and responsible bidder furnishing foreign iron and/or steel based upon furnishing verifiable supportive data. The bidder shall submit a bid based on permanently incorporating only domestic iron and/or steel in the construction of the project. The bidder may also submit a bid for the same proposed contract based on being allowed to permanently incorporate corresponding foreign iron and/or steel materials meeting the other contract requirements into the work on the contract. If he chooses to submit such a bid, that alternate bid shall clearly indicate which foreign iron and/or steel items will be permanently

installed in the work as well as contain prices for all other items listed in the corresponding domestic proposal to complete a total "Foreign" bid.

In the event the contract is awarded to the bidder furnishing foreign iron and/or steel materials or items the provision for price adjustment of steel items will be permitted, however, price fluctuations shall use the U.S. index as stated in the Special Provision for Price Adjustment For Steel. The Contractor must indicate which corresponding eligible steel items he chooses price adjustment to apply. In the event the contract is awarded to a bidder furnishing foreign iron and/or steel items and during the life of that contract the Contractor discovers he can not furnish foreign iron and/or steel material as originally anticipated and agreed upon, he shall be responsible to honor the total bid price and furnish such iron and/or steel materials meeting the contract requirements from other sources as necessary to complete the work.

In the event the Contractor proposes to furnish "foreign" iron and steel and can verify a savings in excess of 25 percent of the overall project cost if bid using domestic materials, the Contractor shall submit a second complete paper bid proposal clearly marked "Foreign" including Form C-7 and supportive data supplement on all sheets. Supportive data shall list, but not be limited to, origin of material, best price offer, quantity and complete description of material, mill analysis, evidence or certification of conformance to contract requirements, etc. The "Foreign" bid shall be completed using the best price offer for each corresponding bid item supplying foreign material in the alternative bid and submit the same with the Contractor's "Domestic" bid. The Contractor shall write the word "Foreign" by the bid total shown on Form C-7 as well as last page of Schedule of Items showing the total bid amount. The bidder shall also contact the State Contract Engineer to inform him that he is also submitting an alternate "Foreign" paper bid..

The information listed on the supportive data sheet(s) will be used to provide the basis for verification of the required cost savings. In the event comparison of the prices given, or corrected as provided in Section 103.01 of the Specifications, shows that use of "foreign" iron and steel items does not represent a cost savings exceeding the aforementioned 25 percent, "domestic" iron and/or steel and prices given there for shall be used and the "100 percent Domestic Items Total" shall be the Contractor's bid.

Certification of Compliance:

Where domestic material is supplied, prior to incorporation into the Work, the Contractor shall furnish to the Department a certificate of compliance (such as may be furnished by steel mill test reports) that all steel and/or iron products supplied to the project except as may be permitted (one-tenth of one percent of the total contract cost or \$2,500, whichever is greater) and permanently incorporated into the work satisfies the domestic requirements herein. This certification shall contain a definitive statement about the origin of all products covered under the provisions of Buy America as stated herein.

In lieu of the Contractor providing personal certification, the Contractor may furnish a stepped certification in which each handler of the product, such as supplier, fabricator, manufacturer, processor, etc. furnishes an individual certification that their step in the process was domestically performed.

THE TOWN OF LEESBURG

GENERAL CONDITIONS

Project Name:
South King Street Widening Phase II
(Masons Ln. to Greenway Dr.)
IFB No. : 13301-FY15-20

THE TOWN OF LEESBURG

GENERAL CONDITIONS

ARTICLE 1: CONTRACT DOCUMENTS

1.1 DEFINITIONS

1.1.1 The Contract Documents

The Contract Documents consist of the Advertisement or Invitation for Bids, Request for Proposals, Information for Bidders, Insurance Certificates, Official Bid Form, Offeror's Bid or Proposal, Bonds, the Notice of Award, the Project Manual, the Owner/Contractor Agreement, the General and Special Conditions, the Drawings, the Specifications, all Addenda issued prior to and all Modifications issued after execution of the Agreement. A Modification is either a written Change Order issued pursuant to the provisions of Article 12.5, or a Field Order issued pursuant to Article 12.2.

1.1.2 The Contract

The Contract is the sum of all the Contract Documents. This Contract represents the entire and integrated agreement between the Owner and the Contractor and supersedes all prior negotiations, representations, or agreements, either written or oral. The Contract may be changed only by a Modification as defined in Article 1.1.1.

1.1.3 The Work

The Work comprises the completed construction required by the Contract Documents and includes all labor, material, equipment, supplies and other facilities or things necessary to produce such construction, and all materials, equipment and supplies incorporated or to be incorporated in such construction.

1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part.

1.1.5 Furnish, Install, Provide

The terms "Furnish", "Install" or "Provide," unless specifically limited in context, mean: furnishing and incorporating a specified item, product or material in the Work, including all labor, materials, and equipment necessary to perform the Work required, ready for intended use.

1.1.6 Firm, Fixed Price or Lump Sum

The terms "Firm, Fixed Price" or "Lump Sum" mean that the Contract Work shall be performed for the price stated in the Contract without any adjustment based on

the Contractor's actual costs unless such adjustment is made by a properly executed Contract Change or Modification.

1.1.7 Schedule of Values

The term "Schedule of Values" means the unit prices for portions of the Work submitted by the Contractor and approved by the Owner's Project Manager for use in preparing Applications for Payment and pricing Contract Changes in accordance with Article 9.2. The Schedule of Values shall not alter the Firm, Fixed Price or Lump Sum value of the Contract.

1.1.8 Miscellaneous Words or Terms

Whenever they refer to the Work or its performance, "Directed," "Required," "Permitted," "Ordered," "Designated," "Prescribed," and words of like import shall imply the direction, requirements, permission, order, designation or prescription of the Owner and/or the Owner's Project Manager, and "Approved," "Acceptable," "Satisfactory," "in the judgment of," and words of like import shall mean approved by or acceptable to or satisfactory to or in the judgment of the Owner and/or the Owner's Project Manager. "Approved" means approved in writing, including subsequent written confirmation of prior oral approval and "Approval" means approval in writing, including all aforesaid.

1.2 EXECUTION, CORRELATION AND INTENT

1.2.1 The Contract Documents may be signed in duplicate originals by the Owner and the Contractor and each set shall be deemed an original, but all sets shall constitute one and the same instrument.

1.2.2 By executing the Contract, the Contractor represents that he has familiarized himself with, and assumes full responsibility for having familiarized himself with, the nature and extent of the Contract Documents, Work, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that may in any manner affect performance of the Work, and represents that his study and observations have been correlated with the requirements of the Contract Documents. The Contractor also represents that he has studied all surveys and investigation reports of subsurface and latent physical conditions referred to in the Contract Documents and made such additional surveys and investigations as he deems necessary for the performance of the Work at the Contract Price in accordance with the requirements of the Contract Documents and that he has correlated the results of all such data with the requirements of the Contract Documents. Failure to make an examination necessary for this determination shall not release the Contractor from the obligations of this Contract nor be grounds for any claim based upon unforeseen conditions.

The Owner assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Owner. The Owner assumes no responsibility for any understanding reached or representation made concerning conditions that can affect the Work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

- 1.2.3** The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all. Should any work or material be required which is not denoted in the drawings and specifications either directly or indirectly, but which is nevertheless necessary for the proper carrying out of the intent thereof, it is understood and agreed that the same is implied and required and that the Contractor shall perform such work and furnish such materials as fully as if they were completely delineated and prescribed.

Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings unless otherwise specifically defined herein. The Table of Articles, titles, headings, and running headlines are solely to facilitate reference to various provisions of the Contract Documents and in no way affect, limit or cast light upon the interpretation of the provisions to which they refer.

- 1.2.4** The organization of the specifications into divisions, sections and articles, and the arrangement of drawings are for clarity only, and shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade. The Contractor may subcontract the Work in such divisions as he sees fit and he is ultimately responsible for furnishing all work shown on the drawings and/or in the specifications.

- 1.2.5** Unless otherwise provided for or amended herein, work shall be performed in accordance with the VDOT Road and Bridge Specifications, current edition; the Town of Leesburg Design and Construction Standards Manual (DCSM), current edition; the Virginia Erosion and Sediment Control Handbook; and the Special Provisions, Special Conditions, and Special Designs as may be described on the plans for the project or in this solicitation. Where there is a conflict between the VDOT Road and Bridge Specifications and the DCSM, the most stringent shall take precedence. A copy of the DCSM may be purchased from the Department of Plan Review at the current standard rate.

Anything shown on the drawings and not mentioned in the specifications or mentioned in the specifications and not shown on the drawings shall have the same effect as if shown or mentioned respectively in both. Technical specifications take priority over general specifications and detail drawings take

precedence over general drawings. Any work shown on one drawing shall be construed to be shown in all drawings and the Contractor will coordinate the Work and the drawings. If any portion of the Contract Documents shall be in conflict with any other portion, the various documents comprising the Contract Documents shall govern in the following order of precedence: The Owner/Contractor Agreement; Modifications; Changes; Addenda; the Supplementary Conditions; the General Conditions; the Specifications; the drawings; the Town DCSM; other published construction standards and specifications; the bonds; the advertisement for bids or invitation or request for proposal; information for bidders; bids; the notice of award. As between schedules and information given on drawings and the scaled measurements, the figures shall govern. As between large-scale drawings and small-scale drawings, the larger scale shall govern. Any such conflict or inconsistency between or in the drawings shall be submitted to the Project Manager whose decision thereon shall be final and conclusive.

1.2.6 This Contract is not intended to create, nor shall any provision be interpreted as creating, any contractual relationship between the Owner and any third parties including all Subcontractors.

1.2.7 The Provisions of this Contract cannot be changed, varied or waived in any respect except by a written Modification or Change Order. No person has authority to orally waive, or to release the Contractor from any of the Contractor's duties or obligations under or arising out of this Contract. Any waiver, approval or consent granted by Changes to the Contractor shall be limited to those matters specifically and expressly stated thereby to be waived, approved or consented to and shall not relieve the Contractor of the obligation to obtain any future waiver, approval or consent.

1.3 OWNERSHIP AND USE OF DOCUMENTS

1.3.1 All drawings, specifications, and copies thereof furnished by or to the Owner under this Contract are and shall remain the property of the Owner. They are to be used only with respect to this Project and are not to be used in whole or in part for any other purpose.

1.3.2 The Contractor shall be provided five sets of the Contract Documents by the Owner's Project Manager. Additional sets of Drawings and Specifications may be obtained from the Owner's Project Manager by paying the then current and regular printing, mailing and handling charges.

END OF ARTICLE 1

ARTICLE 2: OWNER'S PROJECT MANAGER

2.1 DEFINITIONS

- 2.1.1** The term "Project Manager" as used in the Contract Documents, shall mean the entity so identified in the Owner/Contractor Agreement or its duly authorized representatives.
- 2.1.2** The Project Manager is referred to throughout the Contract Documents as if singular in number and masculine in gender.

2.2 SERVICES OF THE OWNER'S PROJECT MANAGER

- 2.2.1** The Owner's Project Manager will serve during construction and until the end of the warranty period. The Owner's Project Manager will advise and consult with the Owner and will have the authority to act on behalf of the Owner only to the extent provided in the Contract Documents. The Owner may identify a substitute Owner's Project Manager at any time by providing written notice to the Contractor.
- 2.2.2** The Owner's Project Manager will inform the Owner and the Contractor whenever in his reasonable opinion any of the Work is proceeding contrary to the requirements of the Contract Documents and will be unacceptable. Failure of the Contractor to take corrective action to make the Work conform to the Contract Documents will subject the Contractor to any and all remedies available to the Owner, including, without limitation, termination pursuant to Article 14. Such notification by the Owner's Project Manager will not be a cause for the Contractor to claim either delay of the Work or any increase in the Contract Price.
- 2.2.3** The Owner, the Owner's Project Manager and other government representatives shall at all times have access to the Work wherever it is in preparation or progress, to include off-site facilities of Subcontractors and suppliers at any tier. The Contractor shall provide safe facilities for such access so the Owner's Project Manager may perform his functions under the Contract Documents.
- 2.2.4** All communications, correspondence, submittals and documents exchanged between the Owner's Project Manager and the Contractor in connection with the Project shall be through or in the manner prescribed by the Owner and consistent with the Owner/Contractor Agreement.
- 2.2.5** The Owner's Project Manager shall make decisions on all matters relating to aesthetic effect, which decision shall be final.

END OF ARTICLE 2

ARTICLE 3: OWNER

3.1 DEFINITIONS

- 3.1.1** "Owner" means the Town of Leesburg, Virginia, unless the Owner/Contractor Agreement provides otherwise. The Owner shall be referred to as the "Town," or as the "Owner."
- 3.1.2** The term "Owner" or "Owner's Project Manager" specifically excludes any and all inspectors having building code or Town ordinance responsibilities or jurisdiction under the requirements of the Building Permit, unless the Owner designates such person to serve as the Owner's Representative.
- 3.1.3** "Contractor" means the person or persons, firm or company whose bid or proposal has been accepted by the Owner and includes the Contractor's representatives, successors and assigns as permitted by the Owner.

3.2 INFORMATION, SERVICES AND RIGHTS OF THE OWNER

- 3.2.1** The Project Manager will provide administration of the Contract as described below.
- 3.2.2** The Owner or, at the Owner's sole discretion, the Owner's Project Manager or Project Manager, will review and process all Progress Payments, including the Final Payment.
- 3.2.3** The Project/Manager shall have the authority to reject the Work when, in his opinion, the Work does not conform to the Contract Documents.
- 3.2.4** Whenever in the Project Manager's reasonable opinion it is necessary or advisable for the implementation of the Contract Documents, the Project Manager will have authority to require special inspection or testing of the Work in accordance with the provisions of the Contract Documents, whether or not such Work is then fabricated, installed or completed.
- 3.2.5** The Owner or the Owner's Project Manager shall at all times have access to the Work wherever it is in preparation or progress. The Contractor shall provide safe facilities for such access.
- 3.2.6** The Owner, the Owner's Project Manager and the Engineer shall not be responsible for or have control or charge of the construction means, methods, techniques, sequences, or procedures, or for the safety precautions and programs in connection with the Work, and will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents.

- 3.2.7** The Owner or the Owner's Project Manager shall not be responsible or liable to the Contractor for the acts, errors or omissions of the Contractor, any separate Subcontractor, any separate Contractor or any Contractor's or Subcontractor's agents or employees, or any other persons performing any of the Work.
- 3.2.8** The Owner assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Owner. The Owner assumes no responsibility for any understanding reached or representation made concerning conditions that can affect the Work by any of its officers or agents before the execution of this Contract, unless that understanding or representation is expressly set forth in this Contract.
- 3.2.9** The Owner shall not be held responsible for failure to perform the duties and responsibilities imposed by the Contract if such failure is due to strikes, fires, riots, rebellions, or Force Majeure, beyond the control of the Owner, that make performance impossible or illegal, unless otherwise specified in the Contract.
- 3.2.10** The Owner will, throughout the Contract Time and any extension thereof have the right of reasonable rejection and approval of staff assigned to the project by the Contractor. If the Owner reasonably rejects staff or Subcontractors, the Contractor must provide replacement staff or Subcontractors satisfactory to the Owner in a timely manner and at no additional cost to the Owner.
- 3.2.11** The foregoing rights are in addition to other rights of the Owner enumerated herein and those provided by law.

3.3 OWNER'S RIGHT TO STOP OR TO SUSPEND WORK

- 3.3.1** If the Contractor fails to correct defective Work as required by Article 13.2 "CORRECTION OF WORK," or fails to carry out the Work or supply labor and materials in accordance with the Contract Documents, the Owner by written order may order the Contractor to stop the Work, or any portion thereof, without monetary compensation to the Contractor until the cause for such order has been eliminated.
- 3.3.2** The Owner may order the Contractor in writing to suspend, delay, or interrupt all or any part of the Work for such period of time as he may determine to be appropriate for the convenience of the Owner.
- 3.3.3** If the performance of all or any part of the Work is suspended, delayed, or interrupted by the Owner or the Owner's Project Manager for an unreasonable period of time, or by failure of either of them to act within the time specified (or if no time is specified, within a reasonable time), an adjustment increasing the time of performance of the Work shall be made. Such adjustments will be made solely for unreasonable suspension, delay, or interruption. The Contract shall be

modified in writing accordingly. However, no claim for an extension of time shall be made under this Article 3.3.3 for any suspension, delay, or interruption pursuant to Article 3.4.1, or for which claim is provided or excluded under any other provision of this Contract.

No claim under this Article 3.3.3 shall be allowed for any claim for an extension of time required for performance, unless within twenty days after the act or failure to act involved, the Contractor submits to the Owner's Project Manager a written statement setting forth, as then practicable, the extent of such claimed time extension and unless the claim for an extension of time is submitted with supporting data within thirty days after the termination of such suspension, delay, or interruption.

3.3.4 In the event of a suspension of work or delay or interruption of work, the Contractor will and will cause his Subcontractors to protect carefully his, and their, materials and work against damage from the weather and maintain completed and uncompleted portions of the work as required by the Contract Documents. If, in the opinion of the Owner's Project Manager, any work or material shall have been damaged by reason of failure on the part of the Contractor or any of his Subcontractors to protect same, such work and materials shall be removed and replaced at the expense of the Contractor.

3.3.5 No claim by the Contractor under Article 3.3.3 shall be allowed if asserted after Final Payment under this Contract.

3.4 OWNER'S RIGHT TO CARRY OUT THE WORK

3.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may after the seven day period give the Contractor a second written notice to correct the deficiencies within a three day period. If the Contractor fails to commence and continue to correct any deficiencies within the second notice's three day period, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such a case an appropriate Change Order shall be issued pursuant to Article 12 deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for services of the Owner's Project Manager, the Engineer and any other additional services made necessary by such default, neglect or failure. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay on demand the difference to the Owner.

3.4.2 The Owner will not be liable or accountable to the Contractor for the method by which the Work, or any portion thereof, performed by the Owner or by separate

contractors pursuant to Article 3.4 is accomplished or for the price paid therefor. Notwithstanding the Owner's right to carry out a portion of the Work, maintenance and protection of the Work remains the Contractor's responsibility.

3.5 EXAMINATION OF RECORDS

3.5.1 The Owner, or any duly authorized representative, shall, until the expiration of five years after final payment hereunder, have access to and the right to examine, audit and copy any directly pertinent books, documents, as-builts, papers and records of the Contractor involving transactions related to this Contract. Any audit or examination shall occur during regular business hours and not exceed a reasonable period of time under the circumstances.

3.5.2 The Contractor further agrees to include in any subcontract for more than \$10,000 entered into as a result of this Contract, a provision to the effect that the Subcontractor agrees that the Owner or any duly authorized representative shall, until the expiration of three years after final payment under the Contract, have access to and the right to examine, audit and copy, without charge, any directly pertinent books, documents, papers and records of such contractor involved in transactions related to such subcontract, or this Contract. The term subcontract shall exclude subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.

3.5.3 The period of access provided in Subparagraphs 3.5.1 and 3.5.2 above shall continue for all contracts and subcontracts until any appeals, litigation, or claims have been finally concluded.

3.5.4 Nothing in these General Conditions shall be deemed to modify in any manner any applicable statute of limitations.

END OF ARTICLE 3

ARTICLE 4: CONTRACTOR

4.1 DEFINITION

4.1.1 The Contractor is the person or organization identified as such in the Owner/Contractor Agreement. The term Contractor means the Contractor or his authorized representative, who shall have authority to bind the Contractor in all matters pertinent to this Contract.

4.1.2 The Contractor is not an agent for the Owner but is an independent contractor engaged in the business of providing the services and performing the Work described in the Contract Documents.

4.2 REVIEW OF CONTRACT DOCUMENTS

4.2.1 Before submitting his bid or proposal to the Owner, and continuously after execution of the Contract, the Contractor shall carefully study and compare the Contract Documents and shall at once report to the Owner any error, inconsistency or omission he may discover, including any requirement that may be contrary to any law, ordinance, rule, regulation or order of any public authority bearing on the performance of the Work. By submitting his bid or proposal for the Contract and the Work under it, the Contractor agrees that the Contract Documents are accurate, consistent and complete. The Contractor shall perform no portion of the Work at any time without Contract Documents and, where required, approved Shop Drawings, product data, samples, mock ups or other submittals for such portion of the Work

4.3 SUPERVISION AND CONSTRUCTION PROCEDURES

4.3.1 The Contractor shall supervise and direct the Work, using his best skill and attention. He shall be solely responsible for and have control over all construction means, uses, sequences, procedures, safety precautions and programs, and coordination of all portions of the Work under the Contract.

4.3.2 The Contractor shall be responsible to the Owner for the acts and omissions of his employees, Subcontractors, Suppliers, their agents and employees, and other persons performing any of the Work and for their compliance with each and every requirement of the Contract Documents, in the same manner as if they were fully employed by the Contractor.

4.3.3 The Contractor shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents either by acts, failures to act or duties of the Owner or the Owner's Project Manager in their administration of the Contract, or by inspections, tests, or approvals (or the lack thereof) required or

performed under Article 4.4 "INSPECTION OF CONSTRUCTION" or Article 7.5 "TESTS" by persons other than the Contractor.

4.3.4 The Contractor shall employ no plant, equipment, materials, methods or persons to which the Owner or Owner's Project Manager reasonably objects.

4.3.5 The Contractor shall not remove any portion of the Work or stored materials from the site of the Work, if payment for such was requested or received from the Owner.

4.3.6 The Contractor shall at all times so conduct its work as to ensure the least possible obstruction to traffic and inconvenience to the general public and the residents in the vicinity of the Work. No road or street shall be closed to the public except with the permission of the Town Traffic Engineer and proper governmental authority. Fire hydrants on or adjacent to the Work shall be kept accessible to fire fighting equipment at all times. Temporary provisions shall be made by the Contractor to ensure the use of sidewalks and the proper functioning of all gutters, drainage inlets, drainage ditches, and irrigation ditches, which shall not be obstructed except as approved by the Owner's Project Manager.

4.3.7 When construction crosses highways, railroads, streets, or utilities under the jurisdiction of State, County, Town, or other public agency, public utility, or private entity, the Contractor shall secure written permission where necessary from the proper authority before executing such new construction. A copy of such written permission must be filed with the Owner before any work is started. The Contractor shall be required to furnish a release from the proper authority before final acceptance of the Work.

4.3.8 The Contractor shall provide and maintain such sanitary accommodations for the use of the Contractor's employees and those of its Subcontractors as may be necessary to comply with the requirements and regulations of the local and State departments of health and where additional accommodations are necessary for a reasonably sanitary activity, then such additional accommodations shall be made by the Contractor.

4.4 INSPECTION OF CONSTRUCTION

4.4.1 The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the Work called for by this Contract conforms to Contract requirements. The Contractor shall maintain complete inspection records and make them available to the Owner and Owner's Project Manager. All work is subject to inspection and testing at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the Contract.

4.5 CONTRACTOR'S REPRESENTATIONS

4.5.1 By entering into this Contract with the Owner, the Contractor represents and warrants the following, together with all other representations and warranties in the Contract Documents:

- .1 That he is experienced in and competent to perform the type of work required and to furnish the plant, materials, supplies or equipment to be so performed or furnished by him;
- .2 That he is financially solvent, able to pay his debts as they mature, and possessed of sufficient working capital to initiate and complete the Work and Changes required under the Contract;
- .3 That he is familiar with all laws, ordinances, permits, regulations and resolutions that may in any way affect the Work or those employed therein, including but not limited to any special laws or regulations related to contractor licenses and/or registrations for the Work or any part thereof;
- .4 That such temporary and permanent work required by the Contract Documents that is to be done by him will be satisfactorily constructed and fit for use for its intended purpose and that such construction will not injure any person, or damage any property;
- .5 That he will fully comply with all requirements of the Contract Documents;
- .6 That he will perform the Work in a skillful manner consistent with good workmanship, sound business practice, and in the most expeditious and economical manner consistent with the best interests of the Owner;
- .7 That he will furnish efficient business administration and experienced superintendence and an adequate supply of workers, equipment, tools, and materials at all times;
- .8 That he has carefully reviewed the Work required and that the Work can be planned and executed in a normal and orderly sequence and be reasonably scheduled so as to insure completion of the Work in accordance with the Contract Documents, allowing for normal and reasonably foreseeable weather, labor

and other delays, interruptions and disruptions of the Work at the site designated;

- .9 That he will complete the Work within the Contract Time and all portions thereof within any required Contract milestones;
- .10 That his Contract Price is based upon the labor, materials, systems and equipment required by the Contract Documents, without exception;
- .11 That he does not and will not during the performance of the Contract violate the provisions of the Federal Immigration Reform and Control Act of 1986, as amended, which prohibits the employment of illegal aliens, and Federal and State employment and wage hour laws;
- .12 That he has taken steps reasonably necessary to ascertain the nature and locations of the Work of the Contract, has investigated and satisfied himself as to the general and local conditions which can affect the Work or its cost, including but not limited to: conditions bearing upon transportation, disposal, handling, and storage of materials; the availability of labor, water, electric power, and roads; uncertainties of weather, river stages, tides, or similar physical conditions at the site; the conformation and conditions of the ground; and the character of equipment and facilities needed before and during work performance;
- .13 That no employee of the Owner shall be admitted to any share or part of this Contract or to any benefit that may arise therefrom which is not available to the general public; and
- .14 That Contractor's bid or offer was made without collusion or fraud and that it has not offered or received any kickbacks or inducements from any other offeror, supplier, manufacturer, or Subcontractor and that it has not conferred on any public employee having official responsibility for this purchase any payment, loan, subscription, advance, deposit of money, services, or anything of more than nominal value, present or promised unless consideration of substantially equal or greater value was exchanged. Contractor acknowledges that this Contract incorporates by reference the Virginia Public Procurement Act, VA Code Sect. 2.2-4300 *et seq.* (VPPA), as well as any state or federal law related to ethics, conflicts of interest, or bribery, including by way of illustration and not limitation, the Virginia State and Local Government Conflict of Interests Act, the

4.6 LABOR AND MATERIALS

- 4.6.1** Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, supplies, tools, construction equipment and machinery, heat, utilities, transportation, and other facilities and services necessary or proper for or incidental to the execution and completion of the Work required by and in accordance with the Contract Documents and any applicable code or statute, whether specifically required by the Contract Documents, or whether their provision may reasonably be inferred as necessary to produce the intended results, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. Unless otherwise specified, all materials and equipment incorporated in the Work under the Contract shall be new. All work performed, shall be accomplished by persons qualified in the respective trades. Final Payment will not be made until the Work is so completed.
- 4.6.2** Whenever materials or equipment are specified or described in the Drawings or Specifications by using the name of a proprietary item or the name of a particular manufacturer, fabricator, supplier, or distributor, the naming of the item is intended to establish the type, function, and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other manufacturers, fabricators, suppliers or distributors may be accepted by the Owner's Project Manager if sufficient information is submitted by the Contractor to allow the Owner's Project Manager to determine that the material or equipment proposed is equivalent to that name.
- 4.6.3** Requests for review of substitute items of material and equipment will not be accepted by the Owner's Project Manager from anyone other than the Contractor. If the Contractor wishes to furnish or use a substitute item of material or equipment, the Contractor shall make written application to the Owner's Project Manager for acceptance thereof, certifying that the proposed substitute will perform adequately the functions called for by the general design, be similar and of equal or better substance to that specified, and be suited to the same use and capable of performing the same or better function as that specified. The application shall state whether or not acceptance of the substitute for use in the Work will require a change in the drawings or specifications to adapt the design to the substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of a license fee or royalty. All variations of the proposed substitute from that specified shall be identified in the application and available maintenance, repair, and replacement service shall be indicated.

4.6.4 The Contractor shall submit complete data substantiating compliance of the proposed substitution with the Contract Documents, including:

- .1 Product identification including manufacturer's name, address and phone number;
- .2 Manufacturer's literature showing complete product description, performance and test data, and all reference standards;
- .3 Samples and colors in the case of articles or products;
- .4 Name and address of similar projects on which the product was used and date of installation;
- .5 For construction methods, include a detailed description for the proposed method and drawings illustrating same;
- .6 Itemized comparison of proposed substitution with product or method specified and any cost reduction which shall benefit the Owner;
- .7 Accurate cost data on proposed substitution with product or method specified and any cost reduction which shall benefit the Owner;
- .8 All directions, specifications and recommendations by manufacturers for installation, handling, storing, adjustment and operation; and
- .9 A mock up if determined necessary by the Project Manager.

4.6.5 The Contractor shall also submit with his request for approval a sworn and notarized statement that shall include the following representations:

- .1 That he has investigated the proposed product or method and determined that it is equal or better in all respects to that specified and that it fully complies with all requirements of the Contract Documents;
- .2 That he will meet all Contract obligations with regard to the substitution;
- .3 That he will coordinate installation of accepted substitutions into the Work, making all such changes and any required schedule

adjustment, at no additional cost to the Owner, as may be required for the Work to be complete in all respects;

- .4 He waives all claims for additional costs and additional time related to substitutions which consequently become apparent. He also agrees to hold the Owner harmless from claims for extra costs and time incurred by other Subcontractors and suppliers, or additional services which may have to be performed by the Owner's Project Manager, for changes or extra work that may, at some later date, be determined to be necessary in order for Work to function in the manner intended in the Contract Documents;
- .5 He will provide the same warranty and guarantee, and perform any work required in accordance therewith, for the substitution that is applicable to the specified item for which the substitution is requested;
- .6 Material will be installed, handled, stored, adjusted, tested, and operated in accordance with the manufacturers' recommendations and as specified in the Contract Documents;
- .7 In all cases new materials will be used unless this provision is waived by notice from the Owner or the Owner's Project Manager or unless otherwise specified in the Contract Documents;
- .8 All material and workmanship will be in every respect in accordance with that which, in the opinion of the Owner or the Owner's Project Manager, is in conformity with approved current practice;
- .9 He has provided accurate cost data on the proposed substitution in comparison with the product or method specified; and
- .10 He has taken into consideration the necessary adjustment, relocation and/or installation of public utilities in areas within the limits of this Contract. No additional compensation will be paid to the Contractor for delays to the project schedule, work interruptions, changes in construction sequences, changes in handling excavation, drainage or paving, or for changes in types of equipment used, etc., caused by complying with the provisions of this statement. The Contractor shall include activities in its initial schedule indicating the utility relocation necessary to complete the Work. Delays to the project schedule caused by untimely relocations of utilities will not be considered a compensable delay, but if supported in accordance with the

provisions of Article 8.3, may entitle the Contractor to a non-compensable time extension. The Contractor shall assume all responsibility for coordinating with the various utility companies to verify their relocation schedules, determine the anticipated duration to complete the respective utility relocations, and to facilitate utility relocations to minimize the impact to the project schedule upon notification of being named the apparent low bidder.

- 4.6.6** The application shall also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change. All of the foregoing shall be considered by the Owner's Project Manager in evaluating the proposed substitute. The Owner's Project Manager may require the Contractor to furnish at the Contractor's expense additional data about the proposed substitute. The Owner shall be the sole judge of acceptability, and no substitute shall be ordered or installed without the Owner's prior written acceptance. The Owner may require the Contractor to furnish at the Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- 4.6.7** If a substitution is approved, no additional change in brand or make will be permitted unless satisfactory written evidence is presented to and approved by the Owner showing that the manufacturer cannot make scheduled delivery of the approved substituted item. Substitutions will not be considered by the Owner if:
- .1 The proposed substitution is indicated or implied on the Contractor's shop drawing or product data submittals and has not been formally submitted for approval by the Contractor in accordance with the above-stated requirement; or
 - .2 Acceptance of the proposed substitution will require substantial revisions to the Contract Document or is otherwise not acceptable to the Owner or his authorized representative.
- 4.6.8** The Contractor shall not have any right of appeal from the decision of the Project Manager rejecting any materials submittal.
- 4.6.9** Manufactured articles, material and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned as directed by the manufacturer unless herein specified to the contrary.
- 4.6.10** Any material specified by reference to the number, symbol or title of a specific standard, such as a Commercial Standard, a Federal Specification, a Trade Association Standard, or other similar standard, shall comply with the

requirements in the latest revision of the standards or specification and any amendment or supplement, except as limited to type, class or grade, or as modified in such reference. The standard referred to, except as modified in the Specifications, shall have full force and effect as though printed in the Specifications.

- .1 Reference in the Specifications or on the Drawings to any article, device, product, material, fixture, form or type of construction by name, make or catalog number shall be interpreted as establishing a standard of quality and shall not be construed as eliminating from competition other products of equal or better quality by other manufacturers where fully suitable, as approved by the Owner's Project Manager. Applications for approval of substitutions for the specified items will be considered only upon request of the Contractor, not of individuals, trades or suppliers, and only for a specific purpose; no blanket approvals will be granted. No approval of a substitution shall be valid unless it is in written form and signed by the Owner's Project Manager.
- .2 If any proposed substitution will affect a correlated function, adjacent construction or the work of other contractors, then the necessary changes and modifications to the affected work shall be considered as an essential part of the proposed substitution, to be accomplished by the Contractor without additional expense to the Owner, if and when approved. Detail drawings and other information necessary to show and explain the proposed modifications shall be submitted with the request for approval of the substitution.

4.6.11 All equipment, apparatus, or devices of any kind to be incorporated into the Work that are shown or indicated on the drawings or called for in the specifications or required for the completion of the Work shall be entirely satisfactory to the Owner's Project Manager as regards operations, capacity, or performance. No approval, either written or oral, of any drawings, descriptive data, or samples of such equipment, apparatus, or device shall relieve the Contractor of his responsibility to turn over the same in good working order for its intended purpose at the completion of the Work in complete accordance with the Contract Documents. Any equipment, apparatus and/or device not fulfilling these requirements shall be removed and replaced by proper and acceptable equipment, or put in good working order satisfactory to the Owner's Project Manager without additional cost to the Owner.

4.6.12 The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to him. The Owner may, by written notice, require

the Contractor to remove from the Work any employee the Owner deems incompetent, careless or otherwise objectionable.

4.7 WARRANTY

4.7.1 The Contractor guarantees and warrants to the Owner all work as follows:

- .1 That all materials and equipment furnished under this Contract will be new and the best of its respective kind unless otherwise specified;
- .2 That all Work will comply with or exceed industry standards and be free of omissions and faulty, poor quality, imperfect or defective materials or workmanship;
- .3 That where no standard is specified for such workmanship or materials, they shall be the best of their respective kinds;
- .4 That all applicable Work shall be entirely watertight and leakproof in accordance with all applicable industry customs and practices, and shall be free of shrinkage and settlement;
- .5 That the Work, including but not limited to, mechanical and electrical machines, devices and equipment shall be fit and fully usable for its intended and specified purpose and shall operate satisfactorily with ordinary care;
- .6 That consistent with requirements of the Contract Documents, the Work shall be installed and oriented in such a manner as to facilitate unrestricted access for the operation and maintenance of fixed equipment; and
- .7 That the Work will be free of abnormal or unusual deterioration that occurs because of poor quality materials, workmanship or unsuitable storage.

4.7.2 All work not conforming to guarantees and warranties specified in the Contract Documents, including substitutions not properly approved and authorized, may be considered defective. If required by the Owner's Project Manager, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty is not limited by the provisions of Article 13 "UNCOVERING AND CORRECTION OF WORK."

- 4.7.3** The warranties set forth in this Article 4.7 and elsewhere in the Contract Documents shall survive Final Completion of the Work under Article 9.8 "FINAL COMPLETION AND FINAL PAYMENT."
- 4.7.4** If, within one year after the Date of Final Acceptance of the Work or designated portion thereof or within one year after acceptance by the Owner of designated equipment or within such longer period as may be prescribed by law or by the terms of the applicable special warranty required by the Contract Documents, any of the Work is found to be defective, not in accordance with the Contract Documents, or not in accordance with the guarantees and warranties specified in the Contract Documents, the Contractor shall correct it within five working days, or such other period as agreed, after receipt of written notice from the Owner or Owner's Project Manager to do so.
- 4.7.5** If at any time deficiencies in the Work are discovered that are found to have resulted from latent defects, gross mistakes, fraud or misrepresentation by the Contractor, any Subcontractor or Supplier, the Contractor will be liable for replacement or correction of such Work or any damage that the Owner has incurred, or will incur, related thereto, regardless of the time limit of any guarantees or warranty.
- 4.7.6** Any materials or other portions of the Work, installed, furnished, or stored on site that are not of the character or quality required by the specifications, or are otherwise not acceptable to the Owner's Project Manager shall be immediately removed and replaced by the Contractor to the satisfaction of the Owner's Project Manager when notified to do so by the Owner's Project Manager.
- 4.7.7** If the Contractor fails to correct defective or nonconforming Work as required by Article 4.7.4 or Article 4.7.5 or, if the Contractor fails to remove defective or nonconforming Work from the site, as required by Article 4.7.6, the Owner may elect to either correct such Work in accordance with Article 3.4 "OWNER'S RIGHT TO CARRY OUT THE WORK" or remove and store materials and equipment at the expense of the Contractor.
- 4.7.8** The Contractor shall bear the cost of making good all work of the Owner, separate contractors or others, destroyed or damaged by such correction or removal required under this Article, Article 13 "UNCOVERING AND CORRECTION OF WORK" or elsewhere in the Contract Documents.

4.8 TAXES

- 4.8.1** The Contractor shall pay all applicable Federal, State, and local taxes and duties for the Work or portions thereof provided by the Contractor that are legally enacted at the time the Contract is awarded, whether or not yet effective.

Increases in the rates of such taxes and duties during performance of the Contract shall be the responsibility of the Contractor.

4.9 PERMITS, FEES AND NOTICES

4.9.1 The Contractor shall secure and pay for all permits, fees, licenses and inspections necessary for the proper execution and completion of the Work that are legally required at the time the proposals are received.

4.9.2 The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work.

4.10 SUPERINTENDENT

4.10.1 The Contractor shall employ a competent Superintendent and necessary assistants who shall be in attendance at the Project site during the progress of the Work. The Superintendent shall be an authorized representative of the Contractor and all communications given to the Superintendent shall be as binding as if given to the Contractor.

4.10.2 The Superintendent shall be in attendance at the Project site not less than eight hours per day, five days per week, unless the job is closed down due to a general strike or conditions beyond the control of the Contractor or until termination of the Contract in accordance with the Contract Documents. It is understood that such Superintendent shall be approved in writing by the Owner and shall be the one who will continue in that capacity for the duration of the Project, unless the Superintendent ceases to be on the Contractor's payroll or his withdrawal is required or approved by the Owner. The Superintendent shall not be employed on any other project for or by the Contractor or any other entity during the course of the Work.

4.10.3 Such Superintendent shall be fluent in English and in such other languages as may be necessary to communicate effectively with all owner's representatives, employees and Subcontractors of the Contractor. This requirement may be satisfied by the on-site presence of a competent foreign language interpreter to English interpreter. Any costs associated with foreign language interpretation shall be borne by the Contractor.

4.10.4 Any and all project documents, including but not limited to daily reports and logs, maintained by the Superintendent or the Contractor's employees or Subcontractors shall be in English. Any costs of foreign language translation shall be borne solely by the Contractor and shall not be a basis for any additional compensation or time extension from the Owner.

4.11 PROJECT SCHEDULES

4.11.1 The Schedule of Completion shall consist of the Contractor planning, scheduling, and constructing this project by using a Critical Path Method Project Schedule (CPM). The CPM shall be used for coordinating and monitoring all the Work specified in the Contract Documents including all activities of subcontractors, vendors, suppliers, utilities, and all other parties associated with the construction of the project. The CPM shall be based upon the entirety of the Contract Documents. All physical work and major procurement activities shall be included. The CPM shall be the Activity-On-Arrow type. The Contractor shall use either Primavera or SureTrak scheduling software.

The CPM utilized float: Float is defined as the amount of time between when an activity “can start” (the early start) and when an activity “must start” (the late start). Float is a shared commodity for the Owner and the Contractor and is not for the exclusive use or financial benefit of either party. Either party has the full use of the float until it is depleted.

4.11.2 Initial Critical Path Method Project Schedule (ICPM) shall consist of the following:

- a. Activity-On-Arrow Time Scale Diagram
- b. Total Float Computer sort
- c. Written Narrative (WN)
- d. Printed calendars. The printed calendars shall include a listing, description, and calendar form tabulation of all calendars used in the ICPM. The calendars shall contain the total number of anticipated work days required to complete all the Work required in the Contract. The calendars shall delineate the holidays, anticipated nonwork days, and bad weather days. An explanation of the Contractor’s basis for determining nonwork and bad weather days shall be included with the calendars.
- e. Data disc containing all of the information for (a) thru (d). The format shall be compatible with the Owner’s computer software.

The ICPM diagram shall be drafted to a scale that allows the I node and J node numbers of each activity to be printed adjacent to that activity. The activities shall be clearly defined. All restraints between activities shall be shown.

The Contractor shall expend the entire Contract time specified in this Invitation for Bids. On Contracts with calendar date completions or calendar day durations, all planned activities shall have durations not exceeding 14 calendar days, except the activities required for the Owner’s review and approval of the working drawings and material sources which shall be given a duration of not less than 30 calendar days. On Contracts with working day durations, these time periods shall be 10 working days and 25 working days.

All activities in the Contract Documents along with a written narrative explanation shall be identified in the ICPM. The Project Manager reserves the right to specify the number of activities, and to require at any time additional breakdown of the activities.

The Contractor shall provide a written narrative as part of the ICPM describing the original critical path, the sequence of work, number of shifts per day, number of hours per shift, composition and number of crews, and the equipment to be utilized on each activity. Subcontracting activities shall be listed and identified by activity number. Each activity shall be identified by physical location and phase of work. Abbreviations used in preparing the ICPM shall be explained in the written narrative.

The Contractor shall complete the proposed ICPM within 14 calendar days after receiving the Notice of Award and submit 5 sets to the Project Manager for review and approval. The Project Manager will review the Contractor's ICPM within 5 calendar days after the submittal. If required, the Project Manager will convene a Joint Review Conference at which time the Project Manager and Contractor may make corrections and adjustments to the proposed ICPM. If a revision is necessary due to the Project Manager's review or the Joint Review Conference, the proposed revisions shall be submitted, by the Contractor, within 7 calendar days after the initial review date to the Project Manager for another review. Revisions shall conform to the format used in the ICPM. The Project Manager will respond to the revised ICPM within seven calendar days after its receipt.

No construction work shall begin until the Project Manager has accepted the ICPM. Time charges shall begin no later than the on or before date of the Notice to Proceed. Any delay in starting work caused by the acceptance of the ICPM by the Project Manager will not be a basis for any monetary claim.

4.11.3 When the Project Manager notifies the Contractor that the ICPM has been accepted, that document will become the CPM of Record (CPMR). The Contractor shall be responsible for implementing and executing the Work specified in the Contract in strict conformance with the CPMR. The CPMR shall be the Contractor's work plan for completing the entire Contract as specified in the Contract Documents.

Failure of the Contractor to adhere to the latest approved CPMR will be cause for the Owner to deny any and all requests for additional compensation or extensions of the Contract duration.

4.11.4 Revisions to the CPMR shall consist of one or more of the following:

- a. A change in duration of an activity.
- b. A change in the logic of the schedule.

- c. A change in the calendars.
- d. The deletion or addition of one or more activities.

The Contractor may submit a proposed revision to the CPMR at any time during the life of the Contract.

The Contractor shall submit a proposed revision to the CPMR whenever the activities differ from the accepted CPMR. Proposed revisions shall be submitted by the Contractor within 30-calendar days from the date on which the Contractor's activities deviated from the accepted CPMR. The revisions shall be submitted to the Project Manager in the same format used for the ICPM. The revisions shall include data from all CPMR Updates, which have been accepted by the Administration. The Written Narrative accompanying the revision shall describe the reason for the revisions, the critical path, and all logic and duration modifications to the CPMR. These shall include, but not be limited to, changes in the method or manner of the Work, changes in Specifications, extra work, addition or deletion of work, increased or decreased quantities, defective work and acceleration of the Work.

The Project Manager will review the CPMR and respond to the Contractor's proposed revision within 5 calendar days after its receipt. The Project Manager reserves the right to deny any proposed revision which adversely impacts the Owner, utilities, or other interested parties.

4.11.5 Any written request for an extension of time or change in incentive/disincentive date (if applicable) shall be accompanied by a revised CPMR, which documents the actual delay to the Contract completion date or incentive/disincentive date. The request shall include a written narrative of the events which would require an extension of the Contract time or incentive/disincentive date.

Only delays to activities, which affect the Contract completion date or incentive/disincentive date will be considered for a time extension. The extension of the specified Contract completion date or incentive/disincentive date will be based upon the actual number of calendar days the Contract completion date or incentive/disincentive date is adjusted. No extensions of the specified Contract completion date will be issued for work performed on activities with float.

4.11.6 Monthly updates of the CPMR are required. CPMR update submissions shall contain the activity data as specified in (a) thru (e) of the ICPM. The update shall describe the progress of the project to date. It shall include a description of the current critical path, the amount of float on the critical path, any delays or disruptions experienced by the Contractor during the period of the update, any change in manpower or equipment, the inclusion of any schedule revisions, and any potential delays or disruptions.

When a delay or a disruption to the Work is identified in the Written Narrative, which the Contractor believes to be the responsibility of the Owner, the Contractor shall submit a revision to the CPMR within 30 calendar days after the submittal of the updates.

4.11.7 The Owner and the Contractor will hold monthly job site progress meetings to discuss the progress of the project and update the CPMR. The Contractor shall arrange to have a representative of each subcontractor currently working on the project in attendance. The Contractor shall submit to the Project Manager the CPMR updates within 14 calendar days from the date of the monthly meeting. The Project Manager will review the update and advise the Contractor of its acceptability prior to the next monthly meeting.

4.12 RESPONSIBILITY FOR COMPLETION

4.12.1 The Contractor shall furnish such labor, materials, tools, equipment, and professional services and shall work such hours, including night shifts, overtime operations and Sundays and holidays, as may be necessary to ensure the performance of the Work within Milestone and Completion dates specified in the Owner/Contractor Agreement. If it becomes apparent to the Owner's Project Manager that the Work will not be completed within required Milestone or Completion dates, the Contractor agrees to undertake some or all of the following actions, at no additional cost to the Owner, in order to ensure, in the opinion of the Owner's Project Manager, that the Contractor will comply with all Milestone and Completion date requirements:

- .1 Increase labor, materials, tools, equipment and professional services;
- .2 Increase the number of working hours per shift, shifts per working day, working days per week, or any combination of the foregoing; and
- .3 Reschedule activities to achieve maximum practical concurrency of accomplishment of activities.

4.12.2 If the actions taken by the Contractor are not satisfactory, the Owner or the Owner's Project Manager may direct the Contractor to take any and all actions necessary to ensure completion within the required completion dates, without additional cost to the Owner. In such event, the Contractor shall continue to assume responsibility for his performance and for completion within the required dates.

4.12.3 If, in the opinion of the Project Manager, the actions taken by the Contractor pursuant to this Agreement or the progress or sequence of work are not accurately

reflected on the Construction schedule, the Contractor shall revise such schedule to accurately reflect the actual progress and sequence of work.

4.12.4 This provision does not eliminate the Contractor's responsibility to comply with the Town noise ordinances, all Town permit requirements and all other applicable laws, regulations, rules, ordinances, resolutions, and permit requirements.

4.13 DOCUMENTS, OTHER SUBMITTALS AT THE SITE; AS-BUILT DRAWINGS

4.13.1 The Contractor and his Subcontractors shall maintain at the site, and at all times make available to the Owner and the Owner's Project Manager one record copy of all Drawings, Specifications, Addenda, Change Orders, and other Modifications, in good order and marked currently to record all changes made during construction, and approved Shop Drawings, Product Data, Samples, Mock Ups and other Submittals ("as-built drawings").

4.13.2 The Contractor shall prepare the as-built drawings by marking up two sets of prints and one electronic copy of the applicable Contract Drawings to portray as-built construction, in conformance with the DCSM. The prints shall be neatly and clearly marked to show all variations between the Work actually provided and that indicated on the Contract Drawings, and all utilities encountered in the Work. All drafting shall conform to good drafting practice and shall include such supplementary notes, legends and details as may be necessary for legibility and clear portrayal of the as-built construction. These drawings shall be marked promptly at the completion of the project and shall be turned over the Owner prior to Final Payment.

4.14 SHOP DRAWINGS, PRODUCT DATA, SAMPLES AND OTHER SUBMITTALS

4.14.1 The term "Shop Drawings" shall mean all drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by Contractor, a Subcontractor, manufacturer, supplier or distributor and which illustrate the equipment, material or some portion of the Work.

4.14.2 The Contractor shall submit with reasonable promptness and in such sequence as to cause no delay in the Work or in the work of the Owner or any separate Contractor, all Shop Drawings, Product Data, Manuals, Samples, and Submittals required by the Contract Documents. All such submissions shall be made so as to cause no delay in the project, allowing the Owner or his designated representative fourteen (14) working days for review and checking.

4.14.3 By approving and submitting Shop Drawings, Product Data, Manuals, Samples and Submittals, the Contractor represents that he has determined and verified all

materials, field measurements, and field construction criteria related thereto, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. The Contractor shall adhere to any supplementary processing and scheduling instructions pertaining to any submittals that may be issued by the Owner's Project Manager.

- 4.14.4** Parts and details not fully indicated on the Contract Drawings shall be detailed by the Contractor in accordance with standard engineering practice. Dimensions on the Contract Drawings, as well as detailed drawings themselves, are subject in every case to measurements of existing, adjacent, incorporated and completed work that shall be taken by the Contractor before undertaking any work dependent on such data.
- 4.14.5** Where the Contract Documents call for the submittal of manufacturer's data to the Owner or the Owner's Project Manager for information only, such submittals shall be made before the commencement of any portion of the Work requiring such submission.
- 4.14.6** The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by virtue of the review by the Owner or the Owner's Project Manager of Shop Drawings, Product Data, Samples or Manuals unless the Contractor has specifically informed the Owner's Project Manager in writing of such deviation at the time of submission and the Owner's Project Manager has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data, Samples or Manuals by the Owner or Owner's Project Manager's review thereof.
- 4.14.7** Shop drawings shall be submitted in such number of copies that three copies may be retained by the Project Manager or his designee after approval. Each submission shall be accompanied by a letter of transmittal in duplicate, listing the contents of the submission and identifying each item by reference to specification section or drawing. All Shop Drawings shall be clearly labeled with the name of the project and such information as may be necessary to enable their complete review by the Project Manager or his designee. Catalog plates and other similar material that cannot be so labeled conveniently shall be bound in suitable covers bearing the identifying data.
- 4.14.8** Shop drawings shall be accompanied by all required certifications and other such supporting material, and shall be submitted in such sequence or in such groups that all related items may be checked together. When Shop Drawings cannot be checked because a submission is not complete, or because Shop Drawings on related items have not been received by the Project Manager or his designee, such Shop Drawings will be returned without action, and marked 'rejected' with

the reason for rejection clearly stated. Incomplete or defective submittals shall also be returned without action, and marked 'rejected' with the reason for rejection clearly stated.

4.14.9 Shop Drawings shall have been reviewed by the Contractor and coordinated with all other related or affected work before they are submitted for approval and shall bear the Contractor's certification that the Contractor has checked and approved them as complying with all relevant information in the Contract Documents. Shop Drawings submitted without such certification and coordination will be returned to the Contractor without action and will be considered not a formal submission.

4.14.10 SAMPLES required by the specifications or requested by the Project Manager or his designee shall be submitted for approval. Samples shall be submitted in single units only, unless the Contractor desires additional units for the Contractor's own use. Each sample shall bear a label indicating the material represented, the name of the producer and the title of the Project. Approval of a sample shall be only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents, and only for the characteristics or use named in such approval. Such approval shall not be construed to change or modify any Contract requirements or the Contract Price. Materials and equipment incorporated in the Work shall match the approved samples.

4.14.11 All TESTS of materials and finished articles shall be made by bureaus, laboratories or agencies approved by the Project Manager or his designee, and the certified reports of such tests shall be submitted to the Project Manager. All costs in connection with the testing shall be borne by the Contractor. Failure of any material to pass the specified tests or any test performed by the Project Manager or his designee will be sufficient cause for refusal to consider, under this Contract, any further materials of the same brand or make of that material. Samples of various materials delivered on the site or in place may be taken by the Project Manager or his designee for testing. Samples failing to meet the requirements of the Contract Documents will automatically void previous approvals of the items tested. See Article 7.5 for additional test requirements.

Unless otherwise specified, testing for soil compaction, soil suitability, concrete testing, etc. will be performed by or on behalf of the Contractor at the Contractor's expense. The Contractor shall furnish copies of all test results or related reports or documents to the Project Manager.

4.15 CUTTING AND PATCHING OF WORK

4.15.1 The Contractor shall be responsible for all cutting, fitting or patching that may be required to complete the Work and to make its several parts fit properly and in accordance with the Contract Documents.

4.15.2 The Contractor shall not damage or endanger any portion of the Work or the work of the Owner or any separate Contractors by cutting, patching or otherwise altering any work, or by excavation. The Contractor shall not cut or otherwise alter the work of the Owner or any separate Contractor except with the written consent of the Owner and of such separate Contractor. The Contractor shall not unreasonably withhold from the Owner or any separate Contractor his consent to cutting or otherwise altering the Work. The Owner shall not be required to accept work with a cut, a splice, or patch when such cut, splice or patch is not generally accepted practice for the particular work involved or is otherwise unworkmanlike in the opinion of the Owner or the Owner's Project Manager.

4.16 DRUG-FREE WORKPLACE

During the performance of this contract, the Contractor agrees as follows:

- .1 The Contractor will provide a drug-free workplace for the Contractor's employees. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- .2 The Contractor shall state in all solicitations or advertisements for employees placed by or on behalf of the Contractor that the Contractor maintains a drug-free workplace.
- .3 The Contractor will include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each Subcontractor or vendor.

For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a Contractor in accordance with the VPPA Section 2.2-4312, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

4.17 NON-DISCRIMINATION IN EMPLOYMENT

During the performance of this Contract, the Contractor agrees to comply fully with VPPA § 2.2-4201 and § 2.2-4343.1 as follows:

- .1 The Contractor will not discriminate against any employee or applicant for employment because of race, religion, disability, color, sex or national origin, except where religion, sex or national origin is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor and the Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause;
- .2 The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that such Contractor is an equal opportunity employer;
- .3 Notices, advertisements and solicitations placed in accordance with Federal law, rule or regulation, shall be deemed sufficient for the purpose of meeting the requirements of this provision; and
- .4 The Contractor will include the provisions of paragraphs .1, .2, .3 above in every subcontract or purchase order of over \$10,000 so that the provisions will be binding upon every Subcontractor or vendor.
- .5 The Contractor will comply with the requirements VPPA Section 2.2-4343.1, Permitted Contracts with Certain Religious Organizations, as applicable.

4.18 SIGNS

The Contractor may at his option and without cost to the Owner, erect signs acceptable to the Owner on the site of the Contract for the purpose of identifying and giving directions to the job. No signs shall be erected without prior approval of the Owner as to design and location.

4.19 CLEANING UP

- 4.19.1** The Contractor at all times shall keep the project site and all surrounding public streets and neighboring property free from accumulation of waste materials or rubbish caused by his operations. At the completion of the Work and before Final Payment is made, he shall remove all his waste materials and rubbish from and about the Project as well as all his tools, equipment and surplus materials. The Contractor shall also thoroughly clean and leave reasonably dust free all interior of all buildings included in the Contract, and thoroughly clean all glass installed under the Contract including the removal of all paint and mortar splatters and other defacements.
- 4.19.2** If the Contractor fails to clean up during or at the completion of the Work, the Owner may do so as provided in Article 6.3 "OWNER'S RIGHT TO PERFORM DISPUTED WORK" and the cost thereof shall be charged to the Contractor.
- 4.19.3** The Contractor shall take all reasonable steps, including but not limited to providing a wash down area, to prevent mud, dirt, and other material from accumulating upon the public streets.
- 4.19.4** During and at the completion of the Work, the Contractor shall prevent site soil erosion, the runoff of silt or debris carrying water from the site, and the blowing of debris off the site in accordance with the applicable requirements and standards of the Virginia Erosion and Sediment Control Handbook, latest edition, and the Contract Documents.

4.20 ROYALTIES AND PATENTS

- 4.20.1** Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of the Owner or Owner's Project Manager its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents. Contractor shall indemnify, defend and hold harmless Owner and Owner's Project Manager and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorneys' fees) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Work of any invention, design, process, product or device not specified in the Contract Documents, and shall defend all such claims in connection with any alleged infringement of such rights.

4.21 ANTITRUST

By entering into a contract Contractor conveys sells assigns and transfers to the Owner all rights, title and interest in and to all causes of the action it now may have or hereafter acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular good(s) or service(s) purchased or acquired by the Owner under this contract.

4.22 INDEMNIFICATION

4.22.1 To the fullest extent permitted by law, the Contractor shall, at his sole cost and expense, indemnify, defend, and hold harmless the Owner, the Owner's Project Manager, their agents, representatives, employees, successors and assigns from and against all claims, actions, judgments, costs, liabilities, penalties, damages, losses and expenses, including but not limited to, attorneys' fees, arising out of or resulting from the performance of the Work, provided that any such claim, action, judgment, cost, liability, penalty, damage, loss or expense:

- .1 Is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom; and
- .2 Is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor or supplier, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

The Contractor shall not be obligated to indemnify the Owner or the Owner's Project Manager hereunder for any damages or injuries, including death, the proximate cause of which is the sole negligence of the Owner or the Owner's Project Manager, consistent with Va. Code § 11-4.1.

Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity that would otherwise exist as to any party or person described in this Article 4.22

4.22.2 In any and all claims against the Owner and the Owner's Project Manager or any of their agents, representatives, or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation under this Article 4.22 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

4.22.3 No provision of Article 4.22 shall give rise to any duties on the part of the Owner or the Owner's Project Manager, or any of their agents, representatives or employees.

4.22.4 The obligations of the Contractor under Article 4.22 shall not extend to the liability of the Owner's Project Manager, or the Owner's design architect or engineers, their agents or employees arising out of (a) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications, or (b) the giving of or the failure to give directions or instructions by Owner's Project Manager, his agents or employees provided such giving or failure to give is the primary cause of injury or damage.

4.23 PERSONS AUTHORIZED TO SIGN DOCUMENTS

The Contractor, within five days after the earlier of the date of a Notice to Proceed or the date of the Owner/Contractor Agreement shall file with the Owner's Project Manager a list of all persons who are authorized to sign documents such as contracts, certificates and affidavits on behalf of the Contractor and to fully bind the Contractor to all the conditions and provisions of such documents.

4.24 ASBESTOS AND OTHER HAZARDOUS SUBSTANCES

4.24.1 Whenever and wherever during the course of performing any work under this contract, the Contractor discovers the presence of asbestos or other hazardous substances or suspects the presence of any hazardous substances, he shall stop the work immediately, secure the area, notify the Owner and await positive identification of the suspect material. During the downtime in such a case, the Contractor shall not disturb any surrounding surfaces but shall protect the area with suitable dust covers. In the event the Contractor is delayed due to the discovery of asbestos, suspected asbestos or any other hazardous or suspected hazardous substances, then a mutually agreed extension of time to perform the Work shall be allowed the Contractor.

4.24.2 Any claims for extension of time shall be subject to the provisions of Article 8.

4.24.3 If the items/products to be purchased are "Hazardous Substances" as defined by 15 U.S.C. § 1261, then the Contractor certifies and warrants that the items or products to be delivered under the Contract shall be properly labeled as required by the foregoing sections and that by delivering the items/products, the Bidder does not violate any of the prohibitions of 15 U.S.C. § 1263.

4.24.4 Material Safety Data Sheets (MSDS) and descriptive literature shall be

provided with the submittal or delivery of each chemical and/or compound subject to Article 4.24.3. Failure on the part of the Contractor to submit such data may be cause for termination in accordance with Article 14.3.

4.25 RIGHT TO PUBLISH

The Contractor otherwise agrees that he will not publish, cause to be published, or otherwise disseminate any information of any nature relating to the Work performed under this Contract, except as may be approved by the Owner in writing.

4.26 MATERIALS AND EQUIPMENT LIST

4.26.1 At least ten (10) working days before the start of construction the Contractor shall submit to the Project Manager for approval a complete list of materials and equipment proposed for use in connection with the project. Partial lists submitted from time to time will not be considered.

4.26.2 After any material or piece of equipment has been approved, no change in brand or make will be permitted unless satisfactory written evidence is presented to prove that the manufacturer cannot make scheduled delivery of the approved material, or that material delivered has been rejected and the substitution of a suitable material is an urgent necessity, or that other conditions have become apparent which indicate that approval of such other material is in the best interest of the Owner.

END OF ARTICLE 4

ARTICLE 5: SUBCONTRACTORS

5.1 DEFINITIONS

5.1.1 A Subcontractor is any firm, supplier, distributor or vendor that performs work for or furnishes services, equipment or supplies to or for the Contractor or another Subcontractor in conjunction with the Contract. The term Subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Subcontractor or his authorized representative. Although the term Sub-subcontractor may appear within the Contract Documents, the term Subcontractor includes any person or entity that has a direct or indirect contract with the Contractor to perform any of the Work.

5.1.2 The Contractor shall be fully responsible to the Owner for all acts and omissions of his Subcontractors, and of persons and organizations directly or indirectly employed by them, and of persons and organizations for whose acts any of them may be liable, to the same extent that he is responsible for the acts and omissions of persons directly employed by him.

5.1.3 Nothing contained in the Contract Documents is intended to, nor shall it create, any contractual relationship between the Owner, the Owner's Project Manager, or any of their agents, consultants, employees, independent contractors, or representatives and any Subcontractor, but the Owner shall be entitled to performance of all obligations intended for its benefit, and to enforcement thereof.

5.1.4 The Owner's Project Manager will not deal directly with any Subcontractor. Communication will be made only through the Contractor. Subcontractors shall route requests for information or clarification through the Contractor to the Owner's Project Manager.

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

5.2.1 The Contractor shall within fourteen days after award of the Contract furnish to the Owner's Project Manager in writing the names of the persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work. The Owner's Project Manager will promptly reply to the Contractor in writing stating whether the Owner has objection to any such proposed person or entity.

5.2.2 The Contractor shall not contract with any such proposed Subcontractor to whom the Owner has made objection under the provisions of Article 5.2.1. The Contractor shall not be required to contract with anyone to whom he has an objection.

5.2.3 If the Owner objects to any proposed Subcontractor under Article 5.2.1, the Contractor shall name a substitute to whom the Owner has no objection within fifteen days.

5.2.4 The Contractor shall make no substitution for any Subcontractor previously proposed by the Contractor and not objected to by the Owner's Project Manager if the Owner makes objection to such substitution.

5.3 SUBCONTRACTUAL RELATIONS

5.3.1 By an appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities that the Contractor, by these Documents, assumes toward the Owner.

This agreement shall preserve and protect the rights of the Owner under the Contract Documents with respect to the Work to be performed by the Subcontractor. The subcontracting will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the Contractor-Subcontractor Agreements, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with his Subcontractors.

The Contractor shall make available to each proposed Subcontractor, prior to the execution of the Subcontract, copies of the Contract Documents to which the Subcontractor will be bound by this Article 5.3, and identify to the Subcontractor any terms and conditions of the proposed Subcontract that may be at variance with the Contract Documents. Each Subcontractor shall similarly make copies of such Contract Documents available to his Sub-subcontractors or Suppliers.

5.3.2 The Contractor shall be liable to and indemnify, defend and hold the Owner harmless from all costs, expenses, fees, attorney's fees, accountant's fees, damages and claims arising because of the Contractor's failure to comply with the provisions of this Article 5.3.

5.4 QUALIFICATION SUBMITTALS

5.4.1 Specific qualification submittals may be required of Subcontractors for certain critical items of the Work. Required qualification submittals are set forth in detail in the Contract Documents and shall be collected and submitted by the Contractor to the Owner's Project Manager for review and approval by the

Owner and Owner's Project Manager. All information required of a single Subcontractor shall be contained in a single, complete submittal. The Contractor shall submit the required qualification information within ten days after receipt of the Owner's Project Manager's request.

5.4.2 The Owner may reject any proposed Subcontractor, or any qualification submittals related thereto, for the following reasons:

- .1 The Contractor's failure to submit requested information within the specified time; or
- .2 The Contractor's failure to provide all of the requested information; or
- .3 The Contractor's submission of a Subcontractor, or its qualifications, that are unacceptable to the Owner.

5.4.3 Should the Owner have objection to any proposed Subcontractor, the Contractor shall submit another firm for approval within fifteen days.

END OF ARTICLE 5

ARTICLE 6: WORK BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM WORK AND TO AWARD SEPARATE CONTRACTS

6.1.1 The Owner reserves the right to perform work related to the Project with its own forces, and to award separate contracts in connection with other portions of the Project or other work on the site.

6.1.2 When separate contracts are awarded for different portions of the Project or other work on the site, the term Contractor in the Contract Documents in each case shall mean the Contractor who executes each separate Owner/Contractor Agreement.

6.2 MUTUAL RESPONSIBILITY

6.2.1 The Contractor shall afford other Contractors and the Owner reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work and shall properly connect and coordinate the Work with that of the Owner and other Contractors, to store his tools, materials and equipment in such orderly fashion at the site of the Work as will not unduly or unreasonably interfere with the progress of the Work or the work of any other Contractors.

6.2.2 If the execution or result of any part of the Work depends upon any work of the Owner or of any separate Contractor, the Contractor shall, prior to proceeding with the Work, inspect and promptly report in writing to the Owner's Project Manager any apparent discrepancies or defects in such work of the Owner or of any separate Contractor that render it unsuitable for such proper execution or result of any part of the Work under this Contract.

6.2.3 Failure of the Contractor to so inspect and report shall constitute an acceptance of the Owner or separate Contractor's work as fit and proper to receive the Work, except as to defects that may develop in the Owner's or separate Contractor's work after completion of the Work, and that the Contractor could not have discovered by its inspection prior to completion of the Work under this Contract.

6.2.4 Should the Contractor cause damage to the Work or property of the Owner or of any separate Contractor on the Project, or to other work on the site, or delay or interfere with the Owner's work on ongoing operations or facilities or adjacent facilities of the Contractor's work, the Contractor shall be liable for the same and, in the case of another Contractor, the Contractor shall attempt to settle such claim with such Contractor prior to such other Contractor's institution of litigation.

6.3 OWNER'S RIGHT TO PERFORM DISPUTED WORK

6.3.1 If a dispute arises between the Contractor and separate Contractors as to their responsibility for cleaning up as required by Article 4.19 "CLEANING UP" or for accomplishing coordination as required by Article 6.4 "COORDINATION OF THE WORK," the Owner may carry out such Work and charge the cost thereof to the Contractors responsible therefor as the Owner's Project Manager shall determine.

6.4 COORDINATION OF THE WORK

6.4.1 By entering into this Contract, Contractor acknowledges that there may be separate Contractors on the Site whose work will be coordinated with that of his own. Contractor warrants and guarantees that he will cooperate with separate Contractors, and will do nothing to delay, hinder or interfere with the Work of other separate Contractors, the Owner or the Owner's Project Manager.

END OF ARTICLE 6

ARTICLE 7: MISCELLANEOUS PROVISIONS

7.1 GOVERNING LAW

7.1.1 The Contract shall be governed by the law of the Commonwealth of Virginia, and shall be performed in accordance with the laws, ordinances, regulations, permits and resolutions of the Town of Leesburg. The sole venue for any litigation under this Contract shall be the Circuit Court of Loudoun County, Virginia. The conflicts of law provisions shall not be employed to apply the laws of any state other than those of the Commonwealth of Virginia to this Contract.

7.1.2 Each provision of law required to be inserted in this Contract shall be deemed inserted. If through mistake or otherwise, any provision is not properly inserted, the Contract shall be modified to include such provision upon the application of either party.

7.1.3 Where applicable, the Contractor shall meet or exceed all requirements of the Town of Leesburg Design and Construction Standards Manual and all other local, state and federal building codes.

7.2 SUCCESSORS AND ASSIGNS

7.2.1 The Contractor binds himself, his partners, successors, assigns and legal representatives to the Owner, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents. The Contractor shall not assign the Contract or sublet it as a whole without the written consent of the Owner, nor shall the Contractor assign any monies due or to become due to him under the Contract, without the previous written consent of the Owner and the Contractor's Surety. Nor shall any contract be entered into or assigned to any party that is debarred from doing business with or in the Commonwealth of Virginia.

7.2.2 In the event the Contractor desires to make an assignment of all or part of the contract or any monies due or to become due under this Contract, the Contractor shall file a written consent of Surety, together with a copy of the proposed Assignment with the Owner or the Owner's Project Manager. In the event the Contractor assigns all or any part of the monies due or to become due under this Contract, the instrument or assignment shall state that the right of assignees in and to any monies due to or to become due to the Contractor shall be subject to prior liens and claims of all persons, firms and corporations that provided labor, services, or furnished material and equipment during the performance of the Work. The rights of assignees shall further be subject to the payment of any liens, claims or amounts due to Federal or State governments, and to all rights of retention and set-off granted to the Owner by the Contract Documents.

7.3 CLAIMS FOR DAMAGES

7.3.1 Should the Contractor suffer injury or damage to person or property because of any act or omission of the Owner or of any of its employees, agents or others for whose acts either is legally liable, claim shall be made in writing to the Owner within thirty days after the first observance of such injury or damage; otherwise, the Contractor shall have waived any and all rights he may have against the Owner, or its employees, representatives and agents.

7.4 DISPUTES

7.4.1 A claim, if any, shall be made in writing and submitted by the Contractor to the Owner, the Project Manager and the Leesburg Town Attorney within ten calendar days after the occurrence of events giving rise to the claim. A claim is limited to events rising out of or relating to the Contract. Failure to file a written claim as required herein shall constitute an absolute waiver of any claim of any sort.

7.4.2 The parties shall first endeavor to resolve any disputes, claims or other matters in question between them through direct negotiations, and if such direct negotiations fail, by non-binding mediation, with the site of the mediation being the Town of Leesburg, Virginia.

7.4.3 If the procedures of subparagraph 7.4.2 have been followed, but more than 90 days have passed since a party has requested mediation, and the dispute, claim or matter in question remains unresolved, then either party may institute a lawsuit in the Circuit Court of Loudoun County, Virginia, which is agreed to be the sole and exclusive venue, and may pursue all available appeals in Virginia state courts, to the extent they have jurisdiction.

7.4.4 Nothing in paragraphs 7.4.1 or 7.4.2 shall prevent a party from seeking temporary injunctive or other temporary equitable relief in the Loudoun County Circuit Court if circumstances so warrant.

7.4.5 In the event of any dispute, claim, or other matter in question arising, Contractor shall continue its performance diligently during its pendency as if no dispute, claim or other matter in question had arisen. During the pendency of any dispute in connection with the payment of moneys, Contractor shall be entitled to receive payments for non-disputed items.

7.4.6 Notwithstanding any other provision hereof, the Contractor expressly waives all claims against the Owner for consequential damages arising out of or relating to this Contract. This waiver includes losses of financing, business and reputation, bonding capacity, and loss of profit other than profit arising directly from the Work where otherwise permitted in the Contract.

7.5 TESTS

7.5.1 If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any portion of the Work to be inspected, tested, or approved, the Contractor shall give the Owner's Project Manager five days notice of its readiness so the Owner's Project Manager may observe such inspection, testing, or approval. The Contractor shall bear all costs of such inspections, tests or approvals conducted by public authorities.

7.5.2 If the Owner's Project Manager determines that any Work requires special inspection, testing, or approval that Article 7.5.1 does not include, the Owner's Project Manager will order the Contractor to make arrangements for such special inspection, testing or approval, and the Contractor shall give the Owner's Project Manager five days notice of such inspection. If such special inspection or testing reveals a failure of the Work to comply with:

- .1 The requirements of the Contract Documents, or
- .2 The conformance of the Work with laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction.

The Contractor shall bear all costs of the Work, including compensation for the Owner's Project Manager and any additional services made necessary by such failure.

7.5.3 Inspections and tests required under Article 7.5.2 to establish compliance with the Contract Documents will be made by a testing agency employed by the Owner. If the initial tests indicate non-compliance with the Contract Documents, the Contractor shall bear the costs thereof and any subsequent testing occasioned by non-compliance shall be performed by the same agency and the cost thereof shall be borne by the Contractor. Representatives of the testing agency shall have access to the Work at all times. The Contractor shall provide facilities for such access in order that the agency may properly perform its functions.

7.5.4 Certificates of inspection, testing or approval required by public authorities shall be secured by the Contractor and promptly delivered by him to the Owner's Project Manager, in adequate time to avoid delays in the Work or Final Payment.

7.5.5 The Contractor shall pay for and have sole responsibility for inspection or testing performed exclusively for his own convenience and for tests necessary because of Contractor's or Subcontractor's errors, omission, or noncompliance with Contract Documents.

7.5.6 All materials and workmanship (if not otherwise designated by the specifications) shall be subject to inspection, examination and test by the Owner or the Owner's Project Manager, at any time during the manufacture or construction and at any place where such manufacture or construction are carried on. Special, full-sized and performance tests shall be described in the specifications. Without additional charge, the Contractor shall furnish promptly all reasonable facilities, labor and materials necessary to make tests safe and convenient.

7.5.7 It is specifically understood and agreed that an inspection and approval of the materials or work by the Owner or the Owner's Project Manager shall not in any way subject the Owner to pay for the said materials or work or any portion thereof, even though incorporated in the Work, if said materials or work shall in fact turn out to be not in compliance with the Contract Documents or otherwise defective.

7.6 UNENFORCEABILITY OF ANY PROVISION

7.6.1 If any provision of this Contract is held as a matter of law to be unenforceable or unconscionable, the remainder of the Contract shall be enforceable without such provision.

7.7 AVAILABILITY OF LANDS

7.7.1 Owner shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be done, rights-of-way or easements for access thereto. The Owner reserves the right to delay the notice to proceed with the Contract Work in order to secure rights of way, easements or to relocate utilities, such as sewer, water, gas, electricity, cable television and other services.

7.7.2 If the Contractor requires additional land for temporary construction facilities and for storage of materials and equipment other than the areas available on the site or right-of-way, or as otherwise furnished by the Owner, the Contractor shall provide such other lands and access thereto entirely at the Contractor's own expense and without liability to the Owner. The Contractor shall not enter upon private property for any purpose without written permission. The contractor shall provide to the Owner evidence of written permission for entry onto private property for the purpose of temporary construction facilities and/or storage of materials and equipment.

7.8 NONEXCLUSIVITY OF REMEDIES

All remedies available to the Owner under the Contract are cumulative and no such remedy shall be exclusive of any other remedy available to the Owner.

END OF ARTICLE 7

ARTICLE 8: TIME

8.1 DEFINITIONS

8.1.1 The Contract Time is the period set forth in the Owner/Contractor Agreement for Final Completion of the Work as defined in Article 8.1.4, including authorized extensions thereto.

8.1.2 The date of commencement of the Work is the date established in the Notice to Proceed issued by the Owner.

Submission by the Contractor of all Certificates of Insurance, Performance and Payment Bonds and their approval by the Owner are conditions precedent to the issuance of the Notice to Proceed. Availability of lands under Article 7.7 is also a condition precedent to the issuance of the Notice to Proceed. The Contractor shall not commence the Work or store materials or equipment on site until written Notice to Proceed is issued or until the Contractor otherwise receives the written consent of the Owner.

8.1.3 The date of Substantial Completion of the Work or designated portion thereof is the date certified by the Owner's Project Manager that the Work or a designated portion thereof is sufficiently complete, in accordance with the Contract Documents, so the Owner can fully occupy or utilize the Work or designated portion thereof for the use for which it is intended, with all of the Project's parts and systems operable as required by the Contract Documents. Only punch list work and any final cleaning beyond that needed for the Owner's full use may remain for Final Completion.

8.1.4 The date of Final Completion of the Work is the date certified by the Owner's Project Manager when the Work is complete, to include punch list work and final clean up, in accordance with the Contract Documents and the Owner may fully occupy or fully utilize the Work for the use for which it is intended.

8.1.5 If the date or time of completion is included in the Contract, it shall be the Date of Final Completion as defined in Article 8.1.4, including authorized extensions thereto, unless otherwise provided.

8.1.6 The term Day as used in the Contract Documents shall mean calendar day unless otherwise specifically designated. All dates shall mean midnight of the indicated day unless otherwise stipulated.

8.2 PROGRESS AND COMPLETION

8.2.1 All time limits stated in the Contract Documents are of the essence of this Contract.

8.2.2 The Contractor shall prosecute the Work diligently to Final Completion.

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 The time during which the Contractor is delayed in the performance of the Work, by the acts or omissions of the Owner, the Owner's Project Manager or their employees or agents, acts of God, unusually severe and abnormal climatic conditions, fires, floods, epidemics, quarantine restrictions, strikes (not to exceed the actual duration of the strike), riots, terrorism, civil commotions, war or freight embargoes, or other conditions beyond the Contractor's control and that the Contractor could not reasonably have foreseen and provided against, shall be added to the Contract Time; provided, however, that no claim by the Contractor for an extension of time for delays will be considered unless made in compliance with the requirements of this Article and other provisions of the Contract Documents.

8.3.2 The Contract Time shall be adjusted only for Change Orders pursuant to Article 12, "CHANGES IN THE WORK," Article 3.3, "OWNER'S RIGHT TO STOP OR SUSPEND THE WORK," and Article 8.3, "DELAYS AND EXTENSIONS OF TIME." If the Contractor requests an extension of the Contract Time, he shall furnish such justification and supporting evidence as the Owner's Project Manager may deem necessary for a determination of whether the Contractor is entitled to an extension of time under the provisions of the Contract.

8.3.3 The burden of proof to substantiate a claim for an extension of the Contract Time shall rest with the Contractor, including evidence that the cause was beyond his control. The Owner's Project Manager shall base his findings of fact and decision on such justification and supporting evidence and shall advise the Contractor in writing thereof.

8.3.4 The Contractor shall not be entitled to and hereby expressly waives any extension of time resulting from any condition or cause unless the request for an extension of time is made in writing to the Owner's Project Manager within seven days of the first instance of delay.

8.3.5 Any claim for an extension of time for a delay for any cause shall be made by filing a written notice of claim with the Owner and the Owner's Project Manager at the beginning of the occurrence or within seven days thereafter if the resulting delay was not reasonably foreseeable. If the asserted cause of delay is weather,

such notice shall be given within seven days after asserted commencement of the claim delayed. The notice of claim shall state the circumstances of the occurrence, the justification for the delay and for the extension of time, and the estimated duration of the delay and of the extension requested. The claim for an extension of time for weather delays shall be further substantiated by weather data collected during the period of delay at the construction site. Said data must demonstrate that an actual departure from normal weather occurred at the work site during the dates in question. Within seven days after the cause of delay has been remedied, the Contractor shall give written notice to the Owner and the Owner's Project Manager of the actual time extension requested as a result of the claimed delay. Failure to file either of the notices as required herein shall constitute an absolute waiver of any claims resulting from a delay or any sort.

The anticipated adverse weather days per month are shown in the chart below.

<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug</u>	<u>Sept</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
8	7	7	8	8	7	5	6	4	6	5	5

The above chart will constitute the base line for monthly weather time evaluations. Actual adverse weather days will be recorded on a calendar day basis (including holidays and weekends), and compared to the anticipated monthly adverse monthly days based on the above chart. The number of actual adverse weather days shall be calculated chronologically from the first day to the last day in each month.

- 8.3.6** Any extension of time beyond the date of completion fixed by the Contract shall not be effective unless granted in writing, signed by the Owner.
- 8.3.7** The Contractor shall be entitled to an extension of time for delay which in the opinion of the Owner is entirely beyond the expectation and control of the Contractor by suspension of work pursuant to Article 3, or by strikes, lockouts, fire, insurrection, war, lightning, hurricane, and tornado. The Contractor shall be entitled to an extension of time for such causes only for the number of days of delay that the Owner may determine to be due solely to such causes and only to the extent that such occurrences actually delay the completion of the Project. Any request for extension of time shall be accompanied by detailed documentation of which specific schedule activities were affected, when they were affected and for what duration.
- 8.3.8** No extension of time will be granted to the Contractor for delays occurring to parts of the Work that have no measurable impact on the competition of the total Work under this Contract; nor will extension of time be granted for delays to

parts of the Work that are not located on the Critical Path as reflected on the approved construction schedule at the time of such delay.

- 8.3.9** Delays in the delivery of equipment or material purchased by the Contractor or his Subcontractors (including Owner-selected equipment), or in the submission of required drawings or specifications by the Contractor's or its Subcontractor's materialmen, manufacturers or dealers, or in the performance of any of the Contractor's Subcontractors or caused by the performance of any of the Contractor's Subcontractors, shall not be considered as a just cause for delay. The Contractor shall be fully responsible for the timely submission, ordering, scheduling, expediting, delivery and installation of all equipment, materials and drawings.
- 8.3.10** Within sixty days after the Contractor files the notice of the actual duration of the extension of time as required herein, the Owner's Project Manager shall present his written opinion to the Owner as to whether an extension of time is justified, and, if so, his recommendation as to the number of days for time extension. The Owner will make the final decision on all requests for extension of time. The Owner's written decision shall be presented to the Contractor within thirty days from receipt of the Owner's Project Manager's recommendation. All such decisions made by the Owner shall be binding and conclusive upon the Contractor.
- 8.3.11** With respect to suspensions of work under Article 3, the Contractor may be entitled to an extension of time if the claim for such extension is submitted in accordance with the requirements of this Article, and if the suspension is not due to any act or omission of the Contractor, any Subcontractor or Sub-subcontractor or any other person or organization for whose acts or omission the Contractor may be liable.
- 8.3.12** An extension of time shall be the sole remedy under this Contract for any reasonable delay caused by any reason or occurrence. The Contractor acknowledges such extension of time to be its sole remedy hereunder, and agrees to make no claim for monetary damages of any sort for delay in the performance of this Contract occasioned by or in any way related to or arising from any act or omission to act of the Owner or the Owner's Project Manager or any representatives of the Owner or any representatives of the Owner's Project Manager, or because of any injunction which may be brought against the Owner or the Owner's Project Manager.
- 8.3.13** As a condition precedent to such additional compensation for unreasonable delay, the Contractor shall satisfy all notice and submission requirements set forth in the Contract Documents for approval of any extension of Contract Time or any change in the Contract Price.

8.3.14 If the Contractor asserts an unwarranted claim for additional compensation for unreasonable delay, the Contractor shall be liable to the Owner and shall pay the Owner all costs incurred by the Owner in investigating, analyzing, negotiating, and litigating the claim.

8.3.15 This Article shall be construed to be included where applicable in every portion of the Contract Documents regardless of whether or not it is specifically referenced therein.

END OF ARTICLE 8

ARTICLE 9: PAYMENTS AND COMPLETION

9.1 CONTRACT PRICE

9.1.1 Unless all or a part of the Contract is based on unit prices, the Contract Price is stated in the Contract and, including authorized adjustments thereto, is the firm, fixed price amount payable by the Owner to the Contractor for the performance of the Work under the Contract Documents. The Contract Price includes, but is not limited to, the Contractor's profits and general overhead and all costs and expenses of any nature whatsoever (including without limitation taxes, labor and materials), foreseen or unforeseen, and any increases in said costs and expenses, foreseen and unforeseen, incurred by the Contractor on this project. The Contractor agrees to assume all increases in costs of any nature whatsoever that may develop during the performance of the Work. The Contract Price includes all applicable Federal, State and local taxes and duties.

9.2 SCHEDULE OF VALUES

9.2.1 Within ten days after the Notice to Proceed is issued, the Contractor shall submit to the Owner's Project Manager a Schedule of Values, allocated to the various portions of the Work including mobilization and demobilization. This schedule, supported by data from the approved Progress Schedule, shall be used as a basis for the Contractor's Applications for Payment upon approval by the Owner's Project Manager. The Schedule of Values shall not alter in any way the firm, fixed price or lump sum contract price. The Contractor shall not front-end load or otherwise assign disproportionate amounts to the Schedule of Values.

9.2.2 If at any time the Contractor expects to receive an amount for a monthly progress payment larger than that indicated by the Schedule of Values and the approved Construction Schedule, the Contractor shall notify the Owner at least thirty days in advance of that payment so that the necessary allocation of funds can be processed. If the Contractor fails to give such notice, the Owner may defer such excess payment to the following progress payment.

9.2.3 With respect to any portion of the Contract subject to unit prices, the schedule of unit prices in the accepted bid shall be used as the basis for preparing Applications for Payment, and each partial payment shall represent the total value of all units of work completed, computed at the unit prices stated in the Contract, less the aggregate of previous payments and retainage. Final payment will be based on the actual quantities performed and justified on as-built drawings.

9.3 APPLICATIONS FOR PAYMENT

- 9.3.1** The Owner shall make progress payments monthly as the Work proceeds on Applications for Payment approved by the Owner's Project Manager.
- 9.3.2** Prior to the date for each progress payment established in the Contract, the Contractor, in accordance with any Supplementary Conditions concerning schedules or payments, shall submit to the Owner's Project Manager an itemized Application for Payment, supported by such data substantiating the Contractor's right to payment as the Owner's Project Manager may require, including but not limited to the Contractor's certification that all work for which payment is requested has been completed in full accordance with the Contract Documents, copies of requisitions from Subcontractors and reflecting retainage, if any, as provided elsewhere in the Contract Documents. The Contractor shall certify that he has paid all due and payable amounts for which previous Certificates for Payment were issued and payments received from the Owner.
- 9.3.3** The Owner will retain five percent of the amount of all progress payments until the Work is substantially completed and accepted, whether or not the Owner has occupied any or all of the Project before such time.
- 9.3.4** The Contractor warrants that title to all Work, materials and equipment covered by an Application for Payment will pass to the Owner either by incorporation in the construction or upon the receipt of payment by the Contractor, whichever occurs first, free and clear of all liens, claims, security interests or encumbrances, hereinafter referred to in this Article 9 as "LIENS". The Contractor further warrants that no Work, materials or equipment covered by an Application for Payment will have been acquired by the Contractor, or by any other person performing Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.
- 9.3.5** Unless otherwise provided in the specifications the Owner will make partial payments to the Contractor on the basis of a duly certified and approved estimate of the Work performed during the preceding calendar month as certified by the Owner's Project Manager.
- 9.3.6** The Contractor may, in preparing estimates, take into consideration the material delivered on site and preparatory work done, if properly documented as required by this Contract, or as may be required by the Owner or the Owner's Project Manager so that the quantities may be verified.
- 9.3.7** The Contractor may, in preparing estimates, take into consideration material such as large pieces of equipment and items purchased specifically for the project, but

stored off the site within the Commonwealth of Virginia, and these items may be considered for payment at the sole discretion of the Owner, provided that all of the following are accomplished prior to the submission of the monthly payment request in which payment for such materials is requested:

- .1 The Contractor must notify the Owner in writing at least ten days prior to the submission of the payment request, through the Owner's Project Manager, that specific items will be stored off site in a designated secure place within the Commonwealth of Virginia. The Schedule of Values must be detailed to separately indicate both the value of the material and of the labor/installation for trades requesting payment for stored materials. The Contractor warrants by giving such notification and by requesting payment for material stored off-site that the storage location is safe and suitable for the type of material stored and agrees that loss of such material shall not relieve him of the obligation to furnish these types and quantities of materials for the project and on a schedule to meet the time completion requirements of the Contract, subject to Article 8.
- .2 Such notification, as well as the payment request, shall:
 - a. itemize the quantity of such materials, and document with invoices the cost of said materials;
 - b. indicate the identification markings used on the materials. Such markings shall clearly reference the materials to the Project;
 - c. State the specific location of the materials. The location must be within reasonable proximity to the job site within the Commonwealth of Virginia;
 - d. State that the Surety on the Performance Bond and the Labor and Material Payment Bond has been notified of the request for payment of materials stored off the site and is agreeable to such payment;
 - e. Certify that adequate all-risk insurance has been obtained by the Contractor on the materials. Such insurance shall be in the name of the Owner and the Contractor.
- .3 The Owner's Project Manager shall indicate, in writing, to the Owner that submittals for such materials have been reviewed and meet the requirements of the drawings and specifications of the

Contract documents, that the stored materials meet the requirement of the drawings and specifications, and that such material conforms to the approved submittals.

- .4 The Owner, through the Owner's Project Manager, shall notify the Contractor in writing of his agreement to prepayment for materials.
- .5 The Contractor shall notify the Owner in writing, through the Owner's Project Manager, when the materials are to be transferred to the site and when the materials are received at the site.
- .6 No partial payment shall be made until the appropriate Certificates of Insurance have been provided.
- .7 All material and Work for which partial payments are made shall thereupon become the sole property of the Owner, but this provision shall not relieve the Contractor from the sole responsibility for all materials and Work, including those for which payment has been made, or the restoration of any damaged Work or as a waiver of the right of the Owner to require the fulfillment of all the terms of the Contract.

9.4 CERTIFICATES FOR PAYMENT

9.4.1 The Owner's Project Manager will within ten days after receipt of the Contractor's Application for Payment, either approve the Application for Payment for such amount as he determines is properly due, or notify the Contractor in writing of his reasons for not approving the Application for Payment as provided in Article 9.6 "PAYMENTS WITHHELD."

9.4.2 The submission and approval of the Progress Schedule and monthly updates thereof, as required by any Supplementary Conditions concerning Schedules, shall be part of the application upon which progress payment shall be made. The Contractor shall be entitled to progress payments only as determined from the currently Approved and Updated Progress Schedule.

9.5 PROGRESS PAYMENTS

9.5.1 After an Application for Payment has been approved by the Owner's Project Manager, the Owner shall make payment in the manner and within the time provided in the Contract Documents.

9.5.2 In accordance with Title 2.2-4354, Va. Code. Ann., Contractor is obligated to take one of the two following actions within seven (7) days after receipt of amounts paid to the Contractor by the Owner for work performed by any Subcontractor under this Contract:

- .1 Pay the subcontractor for the proportionate share of the total payment received from the Owner attributable to the Work performed by the Subcontractor under this Contract; or
- .2. Notify the Owner and the Subcontractor, in writing, of the Contractor's intention to withhold all or a part of the Subcontractor's payment with the reason for nonpayment.

The Contractor is obligated to provide its social security numbers and if a proprietorship, partnership, or corporation, they must provide its federal employer identification number.

The Contractor is obligated to pay interest to Subcontractors on all amounts owed by the Contractor that remain unpaid after seven (7) days following receipt by the Contractor of payment from the Owner for Work performed by the Subcontractor under this Contract, except for amounts withheld as allowed in Article 9.5.2.2, above. It is herewith provided that interest shall accrue at the base rate on corporate loans (prime rate) at large United States money center commercial banks as reported daily in the publication entitled The Wall Street Journal.

The Contractor shall include in each of its subcontracts a provision requiring each Subcontractor to include or otherwise be subject to the same payment and interest requirements with respect to each lower-tier Subcontractor.

The Contractor's obligation to pay an interest charge to a Subcontractor pursuant to the above provisions shall not be construed to be an obligation of the Owner. A Contract modification may not be made for the purpose of providing reimbursement for such interest charge. A cost reimbursement claim may not include any amount for reimbursement for such interest charge.

9.5.3 The Owner's Project Manager may, on request and at his discretion, furnish to any Subcontractor, if practicable, information regarding the percentages of completion or the amounts applied for by the Contractor, and the action taken thereon by the Owner's Project Manager on account of Work done by such Subcontractor.

9.5.4 The Owner has no obligation to pay or to see to the payment of any monies to any Subcontractor except as may otherwise be required by law.

9.5.5 No Application for Payment, nor any progress payment, nor any partial or entire use or occupancy of the Project by the Owner, shall constitute an acceptance of any Work that is not in accordance with the Contract Documents.

9.5.6 In the event of disputes, payment shall be mailed on or before the Payment date for amounts and Work not in dispute, subject to any set-offs claimed by the Owner; except in instances where further appropriations are required by the Owner or where the issuance of further bonds is required, in which case, payment shall be made within thirty days after the effective date of such appropriation or within thirty days after receipt of bond proceeds by the Owner.

9.6 PAYMENTS WITHHELD

9.6.1 The Owner's Project Manager may decline to approve the Application for Payment or reduce payment or because of subsequently discovered evidence or subsequent observations, he may nullify the whole or any part of any Application for Payment previously approved to such extent as may be necessary in his opinion to protect the Owner from loss, because of:

- .1 Defective Work not remedied;
- .2 Third party claims filed, whether in court, in arbitration or otherwise, or reasonable evidence indicating probable filing of such claims;
- .3 Failure of the Contractor to make payments properly to Subcontractors;
- .4 Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;
- .5 Damage to the Owner or to a separate contractor;
- .6 Reasonable evidence that the Work will not be completed within the Contract Time, or within any Contract Milestones as established in the Contract Documents;
- .7 Failure or refusal of the Contractor to carry out the Work in accordance with or to otherwise substantially or materially comply with the Contract Documents;
- .8 Failure or refusal of the Contractor to properly schedule and coordinate the Work, or to provide Progress Schedules, reports and updates; and

.9 Failure or refusal of the Contractor to fully comply with the provisions of Article 4.13 "DOCUMENTS, OTHER SUBMITTALS AT THE SITE; AS-BUILT DRAWINGS."

9.6.2 When the above grounds in Article 9.6.1 are removed, payment shall be made for amounts withheld because of them.

9.7 SUBSTANTIAL COMPLETION

9.7.1 When the Contractor considers that the Work, or a designated portion thereof which is acceptable to the Owner's Project Manager, is substantially complete as defined in Article 8.1.3, the Contractor shall prepare for submission to the Owner's Project Manager a list of items that in his opinion are to be completed or corrected and shall request in writing that the Owner's Project Manager perform a Substantial Completion inspection. The Owner's Project Manager shall review the Contractor's list and will compile a punch list of items to be corrected and completed. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. When the Owner's Project Manager on the basis of an inspection determines that the Work or designated portion thereof is substantially complete, he will then prepare a Certificate of Substantial Completion that will establish the Date of Substantial Completion, state the responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to the Work, and insurance, and shall fix the time within which the Contractor shall complete the items listed.

The Certificate of Substantial Completion shall be issued to the Contractor for his written acceptance of the responsibilities assigned to him in such Certificate and returned to the Owner's Project Manager within five days after issuance

9.7.2 The Contractor shall have thirty days from the Date of Substantial Completion to complete all items on the punch list to the satisfaction of the Owner's Project Manager. The Owner's Project Manager shall have the option to correct any and all punch list items not completed by the Contractor within thirty days from the Date of Substantial Completion by utilizing his own forces, those of the Owner, or by a separate Contractor. The cost of such correction of remaining punch list items by the Owner or others shall be deducted from the Final Payment to the Contractor.

9.7.3 The issuance of the Certificate of Substantial Completion does not indicate final acceptance of the Project by the Owner, and the Contractor is not relieved of any responsibility for the Project except as specifically stated in the Certificate of Substantial Completion.

9.7.4 Should the Owner's Project Manager determine that the Work or a designated portion thereof is not substantially complete, he shall provide the Contractor a written notice stating why the project or designated portion is not substantially complete. The Contractor shall expeditiously complete the Work and shall request in writing that the Owner's Project Manager perform a Substantial Completion reinspection and the costs, if any, associated with such reinspection shall be assessed to the Contractor.

9.8 FINAL COMPLETION AND FINAL PAYMENT

9.8.1 Upon receipt of the documentation required by Article 9.8.3, and of written notice that the Work is ready for final inspection and acceptance, the Owner's Project Manager will promptly make such inspection and, when he finds the Work acceptable under the Contract Documents and the Contract fully performed, he will issue a Certificate of Final Completion to the Contractor. Upon his receipt of the Final Completion Certificate, the Contractor may submit his Application for Final Payment to the Owner's Project Manager for his approval. Final Payment shall be made in full to the Contractor within thirty calendar days after the approval by the Owner's Project Manager of the Application for Final Payment provided that the requirements of Article 9 have been fulfilled, except for an amount agreed upon for any Work remaining uncompleted for which the Owner is entitled a credit under the Contract Documents.

9.8.2 Should the Owner's Project Manager determine that the Work or a designated portion thereof is not complete, he shall provide the Contractor a written notice stating why the Project or designated portion is not complete. The Contractor shall expeditiously complete the Work and shall request in writing that the Owner's Project Manager perform a Final Completion reinspection and the costs, if any, associated with such reinspection shall be assessed to the Contractor.

9.8.3 Neither the Final Payment nor the remaining retained percentage shall become due until the Work is free and clear of any and all Liens and the Contractor submits to the Owner's Project Manager:

- .1 An affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or its property might in any way be responsible, have been paid or otherwise satisfied;
- .2 Consent of surety to Final Payment, if necessary;
- .3 As-built drawings, operation and maintenance manuals and other project closeout submittals, as required by the Contract Documents;

- .4 A fully executed and notarized Release of claims in such form as may be designated by the Owner; and
- .5 A written certification that:
 - a. the Contractor has reviewed the requirements of the Contract Documents;
 - b. the Work has been inspected by the Contractor for compliance with all requirements of the Contract Documents;
 - c. pursuant to this inspection, the Contractor certifies and represents that the Work complies in all respects with the requirements of the Contract Documents;
 - d. the Contractor further certifies and represents that all equipment and systems have been installed and tested in accordance with the Contract Documents and the Owner personnel training in the proper operation and maintenance of equipment is complete; and
 - e. the Contractor provides construction releases as required by the Contract Documents for any property that they acquire for staging areas, field office locations, etc. and have not been provided by the Town for construction purposes. This release is for the purpose of releasing the Owner and the Contractor from liability, claims, and damages arising from construction operations on or adjacent to the property and includes proper restoration of the property after construction. It shall be the Contractor's sole responsibility to obtain all such releases and furnish them to the Owner.

9.8.4 The making of Final Payment shall constitute a waiver of all claims by the Owner against the Contractor except those arising from:

- .1 Unsettled liens and claims against the Owner;
- .2 Faulty, defective or non-conforming Work discovered or appearing after Substantial or Final Completion;
- .3 Failure of Work to comply with the requirements of the Contract Documents; and
- .4 Terms of any warranties contained in or required by the Contract Documents.

9.8.5 The acceptance of Final Payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the Application for Final Payment.

9.8.6 Warranties required by the Contract Documents shall commence on the Date of Final Acceptance of the Work or designated portion thereof unless otherwise provided in writing.

9.9 PARTIAL OCCUPANCY OR USE

9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Article 11.2.8 and authorized by public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and the Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Owner's Project Manager as provided under Article 9.7. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner's Project Manager and the Contractor or, if no agreement is reached, by decision of the Owner's Project Manager.

9.9.2 Immediately prior to such partial occupancy or use, the Owner or the Owner's Project Manager, and the Contractor shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

END OF ARTICLE 9

ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

10.1.1 The Owner and the Owner's Project Manager are not responsible for the means, methods, techniques, sequences or procedures utilized by the Contractor, or for safety precautions and programs in connection with the Work. The Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. This requirement applies continuously throughout the Contract performance, until Final Payment is made, and is not limited to regular working hours.

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss, to:

- .1 All employees on the Work and other persons who may be affected thereby;
- .2 All the Work and materials and equipment to be incorporated therein whether in storage off the site, under the care, custody or control of the Contractor or any of his Subcontractors, machinery and equipment. The Contractor shall comply with, and ensure that the Contractor's personnel and subcontracted personnel comply with all current applicable local, state and federal policies, regulations and standards relating to safety and health, including, by way of illustration and not limitation, the standards of the Virginia Occupational Safety and Health Administration for the General Industry and for the Construction Industry, the Federal Environmental Protection Agency Standards, the Manual of Accident Prevention in Construction published by the Associated General Contractors of America and the applicable standards of the Virginia Department of Environmental Quality.
- .3 Other property at or adjacent to the Work, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

10.2.2 The Contractor shall give all notices and comply with applicable laws, ordinances, permits, rules, regulations and orders of any public authority bearing on the safety of persons or property or their protection from damage, injury or loss.

- 10.2.3** The Contractor shall at all times safely guard the Owner's property from injury or losses in connection with this Contract. He shall at all times safely guard and protect his own work and adjacent property as provided by law and the Contract Documents from damage. All security personnel, passageways, guard fences, lights, and other facilities required for protection of the property and the Work described herein shall be provided and maintained at the Contractor's expense.
- 10.2.4** The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities.
- 10.2.5** When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.
- 10.2.6** The Contractor shall promptly remedy at his own cost and expense all damage or loss to any property referred to in Articles 10.2.1.2 and 10.2.1.3. The Contractor shall perform such restoration by underpinning, repainting, rebuilding, replanting, or otherwise restoring as may be required or directed by the Owner's Project Manager or shall make good such damage in a satisfactory and acceptable manner. In case of failure on the part of the Contractor to promptly restore such property or make good such damage, the Owner may, upon two days written notice, proceed to repair, rebuild or otherwise restore such property as may be necessary, and the cost thereof will be deducted from any monies due or to become due to the Contractor under the Contract.
- 10.2.7** The Contractor shall give notice in writing at least 48 hours before breaking ground, to the Owner, all persons, Public Utility Companies, superintendents, inspectors or those otherwise in charge of property, streets, water pipes, gas pipes, sewer pipes, telephone cables, electric cables, railroads or otherwise, who may be affected by the Contractor's operation, in order that they may remove any obstruction for which they are responsible and have a representative on site to see that their property is properly protected. The Contractor is responsible for any damages or claims resulting from any excavation and shall defend, fully indemnify, and hold harmless the Owner from all actions resulting from such work regardless of whether the Contractor gave proper notice under this clause.
- 10.2.8** The Contractor shall protect all utilities encountered while performing its work, whether indicated on the Contract Documents or not. The Contractor shall maintain utilities in service until moved or abandoned. The Contractor shall exercise due care when excavating around utilities and shall restore any damaged utilities to the same condition or better as existed prior to starting the Work, at no cost to the Owner. The Contractor shall maintain operating utilities or other

services, even if they are shown to be abandoned on the Contract Drawings, in service until new facilities are provided, tested and ready for use.

- 10.2.9** The Contractor shall return all improvements on or about the site and adjacent property that are not shown to be altered, removed or otherwise changed to conditions that existed prior to starting work.
- 10.2.10** The Contractor shall protect the Work, including but not limited to, the site, stored materials and equipment, excavations, and excavated or stockpiled soil or other material, intended for use in the Work, and shall take all necessary precautions to prevent or minimize damage to same or detrimental effect upon his performance or that of his Subcontractors, caused by or due to rain, run-off, floods, temperature, wind, dust, sand, and flying debris. For example, but not by way of limitation, Contractor shall, when necessary, utilize temporary dikes, channels or pumping to carry-off, divert or drain water, and as necessary tie-down or otherwise secure the Work and employ appropriate covers and screens.
- 10.2.11** The Contractor shall be responsible for the prevention of accidents and the protection of material, equipment and property.
- 10.2.12** The Contractor shall not load or permit any part of the Work to be loaded so as to endanger the safety of the Work, persons or adjacent property.
- 10.2.13** The Contractor has sole and complete responsibility for the correction of any safety violation and sole liability for the consequences of the violation. The Contractor shall give prompt written notice of any safety violation to the Owner's Project Manager.
- 10.2.14** The Contractor shall provide, or cause to be provided, all technical expertise, qualified personnel, equipment, tools and material to safely accomplish the Work, specified to be performed by the Contractor and Subcontractor(s).
- 10.2.15** The Contractor shall be responsible for the preservation of all public and private property, trees, monuments, etc., along and adjacent to the street and/or right-of-way, and shall use every precaution to prevent damage to pipes, conduits and other underground structures, curbs, pavements, etc., except those to be removed or abandoned in place and shall protect carefully from disturbance or damage all monuments and property marks until an authorized agent has witnessed or otherwise referenced their location and shall not remove them until directed. Any damage which occurs by reason of the operations under this Contract shall be completely repaired by the Contractor at the Contractor's expense.
- 10.2.16** The Contractor shall shore, brace, underpin, secure, and protect, as may be necessary, all foundations and other parts of existing structures adjacent to,

adjoining, and in the vicinity of the site that may be affected in any way by excavations or other operations connected with the Work contained in this Contract. The Contractor shall be responsible for the giving of any and all required notices to any adjoining or adjacent property owned or other party before commencement of any Work. The Contractor shall indemnify and save the Owner harmless from any damages on account of settlements or loss of all damages for which the Owner may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.

10.2.17 The Contractor shall identify to the Owner's Project Manager at least one on-site person who is the Contractor's competent, qualified, and authorized person on the worksite and who is, by training or experience, familiar with policies, regulations and standards applicable to the Work being performed. The competent, qualified and authorized person must be capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees, shall be capable of ensuring that applicable safety regulations are complied with, and shall have the authority and responsibility to take prompt corrective measures, which may include removal of the Contractor's personnel from the work site.

10.2.18 The Contractor shall provide to the Owner's Project Manager, a copy of the Contractor's written safety policies and safety procedures applicable to the Work within seven (7) days of the issuance of the Notice to Proceed.

10.3 EMERGENCIES

10.3.1 In any emergency affecting the safety of persons or property, the Contractor shall act to prevent threatened damage, injury, or loss to the Owner. The Contractor shall notify the Owner's Project Manager of the situation and all actions taken immediately thereafter. If, in the opinion of the Contractor, immediate action is not required, the Contractor shall notify the Owner's Project Manager of the emergency situation and take necessary steps. If any loss, damage, injury or death occurs that could have been prevented by the Contractor's prompt and immediate action or the emergency resulted from acts or omissions of the Contractor or his Subcontractors, or anyone directly or indirectly employed by any of them, or by anyone whose acts any of them may be liable, the Contractor shall defend, fully indemnify and hold harmless the Owner (including attorneys' fees) from all actions resulting from the emergency. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in Article 12 "CHANGES IN THE WORK."

10.3.2 Prior to commencing his work and at all times during the performance of the Work, the Contractor shall provide the Owner with two, 24-hour emergency phone numbers where his representatives can be contacted.

END OF ARTICLE 10

ARTICLE 11: BONDS AND INSURANCE

11.1 BONDS

- 11.1.1** The Contractor shall furnish to the Owner a performance bond in the sum of the contract price executed by a surety authorized to do business in Virginia, payable to the Town of Leesburg, Virginia, or such other entity as may be identified in the Contract, and conditioned upon the faithful performance of the contract in strict conformity with the plans, specifications, and conditions of the Contract Documents.
- 11.1.2** The Contractor shall furnish to the Owner a payment bond in the amount of the contract price payable to the Town of Leesburg or such other entity as may be identified in the Contract, and executed by a surety authorized to do business in Virginia. Such bond shall be conditioned on the prompt payment to all claimants who have and fulfill contracts to supply labor or materials to the Contractor for all material furnished or labor supplied or performed in the prosecution of the Work. "Labor and materials" shall include public utility services and reasonable rentals of equipment, but only for periods when the equipment rented is actually used at the project site.
- 11.1.3** If the amount of all Work subcontracted to any one Subcontractor is in excess of \$10,000, the Contractor may at his option require the Subcontractor to furnish a Labor and Material Payment Bond with surety thereon, in the amount of fifty percent of the amount of the Subcontract.
- 11.1.4** The Contractor shall ensure that all sureties providing bonds for the Project will give written notice to the Owner, at least thirty days prior to expiration or termination of the bond(s).
- 11.1.5** If the surety on any Bond furnished by the Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located, the Contractor shall within five days thereafter substitute another Bond and surety, both of which shall be acceptable to the Owner.
- 11.1.6** If at any time, the Owner shall be or become dissatisfied with any surety or sureties then upon the Performance and Labor and Materials Payment Bonds, or if for any other reason, such bond shall cease to be adequate security to the Owner, the Contractor shall within five days after notice from the Owner to do so, substitute an acceptable bond(s) in such form and sum and signed by such other sureties as may be satisfactory to the Owner. The premium on such bond(s) shall be paid by the Contractor. No further payment shall be deemed due nor shall be made until the new sureties have been qualified and accepted by the Owner.
- 11.1.7** If more than one surety executes a bond, each shall be jointly and severally liable to the Owner for the entire amount of the bond.

11.2 CONTRACTOR'S LIABILITY INSURANCE

11.2.1 The Contractor shall provide to the Owner, a Certificate of Insurance indicating that the Contractor has in force the coverage below prior to the start of any Work under this Contract. The Contractor agrees to maintain such insurance until the completion of this Contract. All required insurance coverages must be acquired from insurers authorized to do business in the Commonwealth of Virginia and acceptable to the Owner. The minimum insurance coverage shall be:

- .1 Workers Compensation Insurance – as required by federal, state, and municipal laws for the protection of all Contractors' employees working on or in connection with the project, shall be in accordance with Title, 2.2-4332, Va. Code Ann.
- .2 Comprehensive General Liability Bodily Injury and Property Damage: \$3,000,000 combined single limit/each occurrence in the primary policy or through the use of Umbrella or Excess Limits.

The General Liability Insurance shall include the following coverages; comprehensive form, premises-operations, explosion and collapse hazard, underground hazard, products/completed operations hazard, contractual liability insurance, broad form property damage including completed operations, contractors protective liability, personal injury (all insuring agreements) deleting the employee exclusion, and owners protective liability.

- .3 Contractor's Automobile Liability (Bodily Injury and Property Damage):

\$3,000,000 combined single limit per occurrence in the primary policy or through the use of Umbrella or Excess Limit

The Automobile Liability Insurance shall include the following coverages; comprehensive form, owned, hired, and non-owned.

- .4 Property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Article 9.8 or until no person or entity other than the Owner has

an insurable interest in the property required by this Article 11.5 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project. The property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements.

If the liability insurance purchased by the Corporation has been issued on a "claims made" basis, the Corporation must comply with the following additional conditions. The limits of liability and the extensions to be included as described previously in these provisions, remain the same.

The Corporation must either:

1. Agree to provide certificates of insurance evidencing the above coverage for a period of two (2) years after final payment for the Agreement for General Liability policies. This certificate shall evidence a "retroactive date" no later than the beginning of the Corporation's work under this Agreement, or
2. Purchase the extended reporting period endorsement for the policy or policies in force during the term of this Agreement and evidence the purchase of this extended reporting period endorsement by means of a certificate of insurance or a copy of the endorsement itself.

11.2.2 Additional Insured – The Owner, its officers, elected and appointed officials, and employees shall be named as an additional insured in the Contractor's Commercial General Liability policy; evidence of the Additional Insured endorsement shall be typed on the certificate and a copy of the additional insured endorsement shall be forwarded to the Owner along with the copy of the insurance certificate.

11.2.3 Contract Identification – The insurance certificate shall state this Contract's number and title.

11.2.4 The Contractor shall secure and maintain until all work required under the Contract is accepted, such insurance as will protect the Contractor and the Owner from claims directly or indirectly arising or alleged to arise out of the performance of, or failure to perform the Work, or the condition of the Work or the jobsite, from claims by workers, suppliers, Subcontractors, and the general public; from claims made under safe place laws, or any law with respect to protection of adjacent landowners; and from any other claims for damages to property from operations by the Contractor or any Subcontractor,

or anyone directly or indirectly employed by either of them.

The Contractor assumes all risks for direct and indirect damage or injury to the property or persons used or employed on or in connection with the Work contracted for, and of all damage or injury to any person or property wherever located, resulting from any action, omission, commission or operation under the Contract, or in connection in any way whatsoever with the contracted Work.

No acceptance or approval of any insurance by the Owner shall be construed as relieving or excusing the Contractor from any liability or obligation imposed upon the Contractor by the provisions of the Contract Documents.

- 11.2.5** These certificates and the insurance policies required by Article 11.2 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least thirty days prior written notice has been given to the Owner. If any of the foregoing insurance coverages are required to remain in force after final payment and are reasonably available, an additional certificate evidencing continuation of such coverage shall be submitted with the final Application for Payment as required by Article 9.8. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief.
- 11.2.6** Neither the Owner nor the Owner's Project Manager shall have any obligation to review any Certificates of Insurance provided by the Contractor or to check or verify the Contractor's compliance with any and all requirements regarding insurance imposed by the Contract. The Contractor is fully liable for the amounts and types of insurance required herein and is not excused should any policy or Certificate of Insurance provided by the Contractor not comply with the Contract's insurance requirements.
- 11.2.7** If the Contractor fails to comply with the Contract's insurance requirements, the Owner shall be entitled to recover all amounts payable as a matter of law to the Owner or any other parties, including but not limited to the Owner's Project Manager, had the insurance coverage been in effect. Any recovery shall include but is not limited to interest for the loss of the use of such amounts of money, attorneys' fees, costs and expenses incurred in securing such determination and any other consequential damages.
- 11.2.8** Partial occupancy or use in accordance with Article 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

11.3 WAIVERS OF SUBROGATION

11.3.1 The Owner and Contractor waive all rights against (1) each other and any of the Subcontractors, Sub-subcontractors, agents and employees, each of the other, and (2) the Owner's Project Manager and Engineer or Architect or their consultants, separate contractors, if any, and any of their Subcontractors, Sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Article 11.5 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of his consultants, separate contractors, if any, and the Subcontractors, Sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

11.4 ADDITIONAL INSURANCE PROVISIONS

11.4.1 A loss insured under Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Article 11.5.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

11.4.2 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 12.

11.4.3 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved as provided in Article 7.4. The Owner as fiduciary shall, in the case of disputes, make settlement with insurers in accordance with orders of the Court.

END OF ARTICLE 11

ARTICLE 12: CHANGES IN THE WORK

12.1 CHANGES IN THE WORK

12.1.1 The Owner, without invalidating the Contract and without notice to the surety, may order a Change in the Work consisting of additions, deletions, modifications or other revisions to the general scope of the Contract, or changes in the sequence of the performance of the Work. The Contract Price and the Contract Time shall be adjusted accordingly. All such Changes in the Work shall be authorized by written Change Order, and all Work involved in a Change shall be performed in accordance with the terms and conditions of this Contract. If the Contractor should proceed with a Change in the Work upon an oral order, by whomever given, it shall constitute a waiver by the Contractor of any claim for an increase in the Contract Price or Contract Time, on account thereof.

12.1.2 When the Owner and the Contractor have agreed upon a Change in the Work, but a written Change Order Document has not yet been executed, the Owner may, at its sole discretion and option, direct in writing the Contractor to proceed with the Change in the Work pending the execution of the formal Change Order. Contractor shall proceed in accordance with such direction.

12.1.3 The Contractor shall not begin work on any alteration requiring a modification until such modification has been executed by the Owner and the Contractor. If a satisfactory agreement cannot be agreed to for any item requiring a modification, the Owner reserves the right to terminate the contract as it applies to the items in question and make such arrangements as may be deemed necessary to complete the Work.

12.2 FIELD ORDER

12.2.1 A Field Order is a written order to the Contractor signed by the Owner or the Owner's Project Manager interpreting or clarifying the Contract Documents or directing the Contractor to perform minor changes in the Work. Any work relating to the issuance of a Field Order shall be performed promptly and expeditiously and without additional cost to the Owner and within the Contract Time, unless the Contractor submits a Proposed Change Order, defined below, which is approved by the Owner. Field Orders shall be numbered consecutively by date of issuance by the Owner or the Owner's Project Manager.

12.3 REQUEST FOR PROPOSAL

12.3.1 A Request For Proposal (“RFP”) describes a proposed Change in the Work. In response to a Request for Proposal issued by the Owner or the Owner’s Project Manager, the Contractor is required to submit a complete Proposal for the total cost and additional time, if any, necessary to perform the proposed Change in the

Work. Requests For Proposals shall be numbered consecutively by date of issuance by the Owner or the Owner's Project Manager.

12.3.2 The Contractor's Proposal in response to an RFP shall be in the form prescribed by the Owner's Project Manager, including all appropriate back-up material.

12.4 PROPOSED CHANGE ORDER

12.4.1 A Proposed Change Order is a written request from the Contractor to the Owner requesting a change in the Contract Price and/or Contract Time. A Proposed Change Order may be submitted as a proposal in response to a Request For Proposal issued by the Owner or as a claim for an increase in the Contract Price and/or Contract Time pursuant to the issuance of a Field Order. A Proposed Change Order must be submitted within twenty days of the issuance of a Request For Proposal or a Field Order. Proposed Change Orders shall be numbered consecutively by date of issuance by the Contractor. The Contractor shall also indicate on the Proposed Change Order the number of the Request For Proposal or the Field Order to which it responds.

12.4.2 If a Request for Proposal provides for an adjustment to the Contract Price, the adjustment shall be based on one of the following methods:

- .1 mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 as provided in Articles 12.5.3 and 12.5.4.

12.4.3 If it is necessary in this subparagraph to increase the Contract Time to perform the Change in the Work, the Contractor shall provide an estimate of the increase in the Contract Time which shall be negotiated by the parties to the Contract. The Contractor's request for a time extension shall be evaluated in accordance with the criteria described in Article 8.

12.4.4 If the Contractor's Proposed Change Order is rejected by the Owner as being within the scope of the Work required by the Contract Documents the Owner may, at its sole option and discretion, direct the Contractor to perform the Work which is the subject of the Proposed Change Order; the Contractor shall then promptly proceed with the Work. Nothing shall excuse the timely performance by the Contractor of the Work because any Proposed Change Order is pending.

12.5 CHANGE ORDER

- 12.5.1** A Change Order is a written order to the Contractor signed by the Contractor and the Owner's Project Manager, issued after execution of the Contract, authorizing a Change in the Work or an adjustment in the Contract Price and/or the Contract Time. The Contract Price and the Contract Time may be changed only by Change Order. A Change Order signed by the Contractor indicates his agreement therein, including the adjustment in the Contract Price and/or the Contract Time. Change Orders shall be numbered consecutively by date of issuance by the Owner or the Owner's Project Manager and shall, if applicable, indicate the number of the Field Order(s), Request For Proposal(s) and/or Proposed Change Order(s) to which it relates.
- 12.5.2** If the Owner and the Owner's Project Manager determine that the Contractor's Proposed Change Order, submitted pursuant to Article 12.4 for a change in the Contract Price or Contract Time, is acceptable, the Owner's Project Manager shall prepare and issue, or cause to be prepared and issued, a Change Order which will authorize the Contractor to proceed with the Change in the Work for the cost and time stated in the Proposed Change Order, or as otherwise may be agreed upon by the parties. The amounts stated in the Change Order for the cost and time to perform the Change in the Work shall be binding on the parties.
- .1 The contractors markup for allowable profit and overhead shall be limited to 10%.
- 12.5.3** After issuance of the Change Order, the Contractor shall ensure that the amount of the Performance and Payment Bond coverage has been revised to reflect the increase in the Contract Price due to the Change Order.
- 12.5.4** If the Contractor's Proposed Change Order is not acceptable to the Owner and the Owner's Project Manager or if the parties are unable to otherwise agree as to the cost and time necessary to perform the Change in the Work, the Owner may, at its sole option and discretion, direct the Contractor to perform the Work on a time and material basis. The Contractor shall then promptly proceed with the Work.
- 12.5.5** If the Owner and the Owner's Project Manager elect to have the Change in the Work performed on a time and material basis, the same shall be performed, whether by the Contractor's forces or the forces of any of his Subcontractors or Sub-subcontractor's, at actual cost to the entity performing the Change in accordance with the time and material provisions included in the Road and Bridge Specifications of the Virginia Department of Transportation, current edition.
- 12.5.6** Prior to starting the work on a time and material basis, the Contractor shall notify the Owner's Project Manager in writing as to what labor, materials, equipment or

rentals are to be used for the Change in the Work. During the performance of the Change, the Contractor shall submit to the Owner daily time and material tickets, which shall list the categories and amounts of labor and equipment for which Change Order compensation is to be charged for the previous work day. Such tickets shall be submitted in strict accordance with the time and material provisions included in the Road and Bridge Specifications of the Virginia Department of Transportation.

- 12.5.7** The Contractor shall commence submission of daily time and material tickets immediately upon commencement of the Change Order Work and continue to submit them until completion of the Change Order Work. The Owner may require authentication of all time and material tickets and invoices by persons designated by the Owner for such purpose.
- 12.5.8** The failure of the Contractor to provide any required authentication shall, if the Owner elects to treat it as such, constitute a waiver by the Contractor of any claim for the cost of that portion of the Change in the Work covered by a non-authenticated ticket or invoice; provided, however, that the authentication of any such ticket or invoice by the Owner shall not constitute an acknowledgment by the Owner that the items thereon were reasonably required for the Change in the Work.
- 12.5.9** The Contractor shall submit his complete submission of the reasonable actual cost and time to perform the Change in the Work within twenty days of the request of the Owner's Project Manager to do so. The Owner and the Owner's Project Manager shall review the costs and time submitted by the Contractor on the basis of reasonable expenditures and savings of those performing the Change in the Work. If such costs and time are acceptable to the Owner and the Owner's Project Manager, or if the parties otherwise agree to the actual reasonable cost to perform the Change in the Work, the Owner's Project Manager shall issue a Change Order for the cost and time agreed upon. The amounts stated in the Change Order for the cost and time to perform the Change in the Work shall be binding upon the parties.
- 12.5.10** The Contractor shall be entitled to costs as provided for in Article 12.4 which the Contractor, or his Subcontractors, may incur as a result of delays, interferences, suspensions, changes in sequence or the like, which are unreasonable, arising from the performance of any and all changes in the Work, caused by acts or omissions of the Owner, performed pursuant to this Article 12.
- 12.5.11** If any dispute should arise between the parties with respect to an increase or decrease in the Contract Price or an extension or reduction in the Contract Time or as a result of a Change in the Work, the Contractor shall not suspend performance of a Change in the Work or the Work itself unless otherwise so ordered by the Owner's Project Manager in writing. Disputes must be resolved

pursuant to Article 7.4 of the Contract. The Owner will, however, pay the Contractor up to the Owner's Project Manager's estimated value of the Change in the Work, regardless of the dispute, if the Change in the Work results in an increase in the Contract Price; and the Owner will have the right to decrease the Contract Price up to the Owner's Project Manager's estimated value of the Change in the Work, regardless of the dispute, if the Change in the Work results in a decrease in the Contract Price.

12.6 UNILATERAL CHANGE ORDER

12.6.1 In the event that the parties are unable to agree as to the reasonable cost and time to perform the Change in the Work and the Owner does not elect to have the Change in the Work performed on a time and material basis, the Owner and the Owner's Project Manager shall make a unilateral determination of the reasonable cost and time to perform the Change in the Work, based upon their own estimates, the Contractor's submission or a combination thereof. A Change Order shall be issued for the amounts of cost and time determined by the Owner and the Owner's Project Manager and shall become binding upon the Contractor unless the Contractor submits his protest in writing to the Owner within ten days of the issuance of the Change Order. The procedure for the resolution of the Contractor's protest shall be as described in Article 12.10. The Owner has the right to direct in writing the Contractor to perform the Change in the Work, which is the subject of such Unilateral Change Order. Failure of the parties to reach an agreement regarding the cost and time of performing the Change in the Work, or any pending protest, shall not relieve the Contractor from performing the Change in the Work promptly and expeditiously.

12.7 DECREASES AND WORK NOT PERFORMED

12.7.1 Should it be deemed expedient by the Owner or the Owner's Project Manager at any time that the Contract Work is in progress to decrease the dimensions, quantity of material or work, or vary in any other way the Work herein contracted for, the Owner or the Owner's Project Manager shall have the full power to do so, and shall order, in writing, such decreases to be made or performed without affecting the enforcement of the Contract. The Contractor shall, in pursuance of such written orders and directions from the Owner or the Owner's Project Manager, execute the work ordered, and the difference in expense occasioned by such decrease so ordered shall be deducted from the amount payable under this Contract.

12.7.2 If Work is not performed, and such deletion of Work is not approved by the Owner, the Owner's Project Manager shall ascertain the amount of the credit due the Owner, based on the reasonable value of the labor and materials so deleted, for the lesser amount of materials and labor required.

12.7.3 If Work is deleted from the Contract by Change Order, the amounts to be credited to the Owner shall reflect the same current pricing as if the Work were being added to the Contract at the time the deletion is ordered, and documentation will be required for a credit as specified in Article 12.4. If such deleted materials and equipment shall have already been purchased and stored on site and cannot be used in other projects or returned for credit or cannot be returned for credit at the price paid by the Contractor at the time of purchase, the Contractor shall be entitled, upon proper documentation and certification, to an adjustment in the pricing of the credit to avoid hardship to the Contractor. If necessary in order to establish such reasonable value, the Contractor may be required to submit a detailed breakdown of his original bid for the items or Work involved.

12.8 CHANGES IN LINE AND GRADE

12.8.1 The Owner reserves the right through the Owner's Project Manager to make such alterations in the line and grade of various structures or pipelines shown on the drawings, as may be necessitated by conditions found during construction or that in the judgment of the Owner's Project Manager appears advisable. The Contractor shall not claim forfeiture of Contract by reason of such changes by the Owner's Project Manager.

12.8.2 In case of a fixed price contract, the price of the Work shall be negotiated as herein provided. If such alterations or changes diminish the quantity of Work to be done, they shall not constitute a claim for damages or for loss of anticipated profits in the Work which may be dispensed with, and the Work as constructed shall be paid for in accordance with the Contract prices as established for such Work under this Contract. In the case of a unit price, or partial unit price, contract, the altered Work shall be performed at the appropriate unit price.

12.8.3 The Contractor shall employ a certified Land Surveyor to establish a base line and set bench marks for the Contractor's use as necessary to stake the basic layout of the Work. Where new construction connects to existing facilities, it shall be the responsibility of the Contractor to check and establish the location of all existing facilities prior to construction of the new facilities.

12.8.4 All stakes, bench marks, and other base line information provided by the Owner or the Owner's Project Manager shall be carefully preserved by the Contractor, and in case of their removal by any cause without prior written consent from the Owner, such stakes, bench marks, and other base line information will be replaced by the Contractor at the Contractor's sole expense.

12.8.5 The dimensions for lines and elevations for grades of the structures, appurtenances, and utilities are indicated on the Drawings, together with pertinent information required for laying out the Work. Utility locations are approximate and it shall be the Contractor's responsibility to determine the exact location of

the utilities prior to commencing Work in all areas where conflicts with utility installations are possible. If site conditions vary from those indicated, the Contractor shall notify the Owner immediately, who will promptly direct any adjustment as required. The locations of existing utilities, including underground utilities, which may affect the Work, are indicated on the drawings or in the specifications insofar as their existence and location were known at the time of preparation of the drawings. However, nothing in these drawings or specifications shall be construed as a guarantee that such utilities are in the location indicated or that they actually exist, or that other utilities are not within the area of the operations. The Contractor shall make all necessary investigations to determine the existence and locations of such utilities. The Contractor will be held responsible for any damage to and maintenance and protection of existing utilities and structures, of both public and private ownership. Acceptability of restored utility installation shall be determined by the respective utility Owner. All utilities shall remain in service during the construction of this project unless written authorization of interruption of service is received from the respective utility Owner and the interruption is approved by the Project Manager.

12.8.6 Contractor shall notify the Owner immediately upon discovery of any apparent errors in the lines or grades. If Contractor proceeds with knowledge of such apparent error without first receiving written clarification from the Owner's Project Manager, the Contractor does so at his own risk.

12.9 DIFFERING SITE CONDITIONS

12.9.1 The Contractor shall promptly, and before the conditions are disturbed, give written notice to the Owner's Project Manager of (a) subsurface or latent physical conditions at the site which differ materially from those indicated in the Contract Documents, or (b) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the Contract and which were not reasonably anticipated as a result of the investigation required by Article 1.2.2.

12.9.2 The Owner's Project Manager shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the cost or time of performance, the provisions of Article 12 "Changes in the Work" shall apply.

12.9.3 No request by the Contractor for a Change Order under this Article shall be allowed, unless the Contractor has given the required written notice.

12.9.4 No request by the Contractor for a Change Order under this Article shall be allowed if made after final payment under the Contract.

12.10 CLAIMS FOR ADDITIONAL COST AND/OR TIME

12.10.1 If the Contractor wishes to make a claim for an increase in the Contract Price and/or Contract Time, he shall give the Owner written notice thereof within seven calendar days after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property in which case the Contractor shall proceed as provided in Article 10. No claim shall be allowed and no amounts shall be paid for any costs incurred more than ten calendar days prior to the time notice is given to the Owner. Any change in the Contract Price or Contract Time resulting from such claim must be authorized by Change Order. The Contractor's complete claim submittal for an increase in the Contract Price shall be submitted no later than twenty calendar days after the Work for which the claim is made has been completed or after the request of the Owner or the Owner's Project Manager, whichever is earlier.

12.10.2 If the Contractor claims that additional cost or time is involved because of, but not limited to, any of the following circumstances, the Contractor shall make such claim as provided in Subparagraph 12.10.1: (1) any written interpretation pursuant to Article 2, (2) any order by the Owner to stop the Work pursuant to Article 3.3 where the Contractor was not at fault, (3) failure of payment by the Owner pursuant to Article 9, or (4) any written order for a minor change in the Work issued pursuant to Article 12.8.1.

12.11 ATTORNEYS' FEES AND OTHER EXPENSES

12.11.1 In recognition of the public monies being administered by the Owner to fund this Contract, the Contractor agrees that he will not submit, assert, litigate or otherwise pursue any frivolous or unsubstantiated delay claims. If the Contractor's delay claim, or any separate item of a delay claim, is determined through litigation or other dispute resolution process to be false or to have no basis in law or fact, the Contractor shall be liable to the Owner and shall pay it for all Investigation Costs incurred by the Owner. These costs include investigating, analyzing, negotiating, appealing, defending, and litigating the false or baseless delay claims, attorneys' fees, audit costs, accountants' fees, expert witness' fees, additional architect/engineer expenses and any other consultant costs. The amount to be paid hereunder to the Owner shall be the percentage of the Owner's total Investigation Costs in an amount equal to the percentage of the Contractor's total delay claim which is determined to be false or to have no basis in fact.

12.11.2 If the Contractor breaches any obligation under the Contract Documents, the Contractor shall reimburse the Owner for all costs and expenses incurred by the Owner relating to such breach, including but not limited to, attorneys' fees, audit

costs, accountants' fees, expert witness' fees, additional architectural or engineering expenses, and any other consultant costs.

- 12.11.3** If the Owner prevails in a claim brought against the Contractor, including but not limited to, claims for fraud or misrepresentation, overpayment, defective work, delay damages, and recovery of termination expenses, the Contractor shall reimburse the Owner for all costs and expenses incurred by the Owner relating to such claim, including but not limited to, attorneys' fees, audit costs, accountants' fees, expert witness' fees, additional architect or engineering expenses, and any other consultant costs.

END OF ARTICLE 12

ARTICLE 13: UNCOVERING AND CORRECTION OF WORK

13.1 UNCOVERING OF WORK

13.1.1 If any portion of the Work should be covered contrary to the request of the Owner's Project Manager or to requirements specifically expressed in the Contract Documents or to requirements of applicable Construction Permits, it must, if required in writing by the Owner's Project Manager, be uncovered for its observation and shall be replaced at the Contractor's expense.

13.1.2 If any portion of the Work has been covered that the Owner's Project Manager has not specifically requested to observe prior to being covered, the Owner's Project Manager may request to see such Work and it shall be uncovered by the Contractor. If such Work complies with the Contract Documents, the cost of uncovering and replacement shall, by appropriate Change Order, be charged to the Owner. If such Work does not comply with the Contract Documents, the Contractor shall pay such costs unless the Owner caused this condition, in which event the Owner shall pay such costs.

13.2 CORRECTION OF WORK

13.2.1 The Contractor shall promptly reconstruct, replace or correct all Work rejected by the Owner's Project Manager as defective or as failing to conform to the Contract Documents or as not in accordance with the guarantees and warranties specified in the Contract Documents whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including compensation for the Owner's Project Manager and any other additional services made necessary thereby.

13.2.2 The Contractor, unless removal is waived by the Owner, shall remove from the site all portions of the Work that are defective or non-conforming, or if permitted or required, he shall correct such Work in place at his own expense promptly after receipt of notice, and such rejected Work shall not thereafter be tendered for acceptance unless the former rejection or requirement for correction is disclosed.

13.2.3 If the Contractor does not proceed with the correction of such defective or non-conforming Work within a reasonable time fixed by written notice from the Owner's Project Manager, the Owner may either:

- .1 By separate contract or otherwise replace or correct such Work and charge the Contractor the cost occasioned the Owner thereby and remove and store the materials or equipment at the expense of the Contractor; or

.2 Terminate this Contract as provided in Article 14.3 "DEFAULT TERMINATION."

13.2.4 The Contractor shall bear the cost of making good all work of the Owner or separate Contractors destroyed or damaged by such correction or removal.

13.2.5 Nothing contained in this Article 13.2 shall be construed to establish a period of limitation with respect to any other obligation that the Contractor might have under the Contract Documents, including Article 4.7 "WARRANTY" hereof. The establishment of the period of one year after the Date of Final Completion or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which his obligation to comply with the Contract Documents may be sought to be enforced, or to the time within which proceedings may be commenced to establish the Contractor's liability with respect to his obligations other than specifically to correct the Work.

13.3 ACCEPTANCE OF DEFECTIVE OR NON-CONFORMING WORK

13.3.1 If the Owner or its Project Manager prefers to accept defective or non-conforming Work, it may do so instead of requiring its removal and correction. In this case, a Change Order will be issued to reflect a reduction in the Contract Price where appropriate and equitable, or the Owner may elect to accept payment in materials or services, in lieu of a reduction in the Contract Price. If the amount of a reduction is determined after Final Payment, it shall be paid on demand to the Owner by the Contractor.

END OF ARTICLE 13

ARTICLE 14: TERMINATION OF THE CONTRACT

14.1 TERMINATION FOR THE CONVENIENCE OF THE OWNER

14.1.1 The Owner may, at any time upon ten days written notice to the Contractor, terminate, without prejudice to any right or remedy of the Owner, the whole or any portion of the Work for the convenience of the Owner. This Notice of Termination shall specify that portion of the Work to be terminated and the effective date of termination. The Contractor's sole remedy, in the event of such termination, will be the allowable termination costs permitted by Article 14.2 "ALLOWABLE CONVENIENCE TERMINATION COSTS."

14.1.2 The Contractor shall include termination clauses identical to Article 14 in all subcontracts and purchase orders related to the Work. Failure to include these termination clauses in any subcontracts or purchase orders shall preclude recovery of any termination costs related to that subcontract or purchase order.

14.1.3 Non-appropriation Clause

Notwithstanding anything contained herein to the contrary, this contract shall be terminated if all of the following events shall have occurred:

1. Funds are not appropriated for a subsequent fiscal period during the term of this contract for the acquisition of substantially the same functions as provided for herein, and written notice thereof is given to CONTRACTOR at least thirty (30) days prior to the first day of such subsequent fiscal periods or within five (5) days of the approval of the final budget for such fiscal year, whichever occurs later.
2. Town has exhausted all funds legally available for payment under this contract.

Upon such termination, Contractor's only remedy shall be to terminate the contract at the end of the fiscal period during which notice is given. Payment in compliance with the contract for materials, goods, and services rendered hereunder during the fiscal year at the end of which termination occurs, without penalty, termination, profit or overhead expenses of any kind shall constitute full performance on the part of the Town.

14.2 ALLOWABLE CONVENIENCE TERMINATION COSTS

14.2.1 After complying with the provisions of Article 14.4, the Contractor may submit a termination claim, not later than six months after the effective date of its

termination, unless one or more extensions of three months each are granted by the Owner in response to the Contractor's written request.

14.2.2 The Owner shall pay the Contractor's reasonable costs of termination, plus a mark-up of ten percent for profit and overhead. This amount will not exceed the original contract price, reduced by any payments made prior to Notice of Termination, and further reduced by the price of the supplies not delivered, or the service not provided. This Contract shall be amended accordingly, and the Contractor shall be paid the agreed amount.

14.2.3 If the parties cannot agree on the amount to be paid to the Contractor by reason of termination under this clause, the Owner shall pay to the Contractor the amounts, as determined by the Owner's Project Manager as follows, without duplicating any amounts which may have already been paid under the preceding paragraph of this clause:

.1 With respect to all Contract performance prior to the effective date of Notice of Termination, the total of:

- a. cost of work performed or supplies delivered;
- b. the costs of settling and paying any reasonable claims as provided in Article 14.4; and
- c. a mark-up of ten percent for profit and overhead. Neither the Contractor nor any Subcontractor shall be entitled to profit or overhead associated with the portion of the work not performed, nor to profit associated with costs of demobilization.

.2 The total sum to be paid under .1 above shall not exceed the contract price, as reduced by the amount of payments otherwise made, and as further reduced by the contract price of work not done or supplies not delivered. The Owner may subtract from the amount claimed by the Contractor any claim the Owner has against the Contractor

14.2.4 If the Contractor is not satisfied with any payments that the Owner's Project Manager shall determine to be due under this clause, the Contractor may proceed in accordance with Article 7.4 "DISPUTES."

14.2.5 If the Contractor would have sustained a loss on the entire Contract had it been completed, no profit shall be included or allowed and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss.

14.3 DEFAULT TERMINATION

14.3.1 The Owner may, upon ten days written notice to the Contractor, terminate, without prejudice to any right or remedy of the Owner, the Contract for default, in whole or in part, and may take possession of the Work and complete the Work by contract or otherwise in any of the following circumstances:

- .1 The Contractor refuses or fails to prosecute the Work or any separable part thereof with such diligence as will ensure the Substantial Completion of the Work within the Contract Time, or fails to meet any milestones established in the Contract Documents or fails to substantially complete the Work within this period;
- .2 The Contractor is in default in carrying out any provision of the Contract for a cause within his or his Subcontractors' control;
- .3 The Contractor fails to supply a sufficient number of properly skilled workers or proper equipment or materials;
- .4 The Contractor fails to make prompt payment to Subcontractors or for materials or labor;
- .5 The Contractor disregards laws, permits, ordinances, rules, regulations, or orders of any public authority having jurisdiction;
- .6 The Contractor breaches any provision of the Contract Documents;
- .7 The Contractor voluntarily abandons the Project;
- .8 Upon at least thirty calendar days prior written notice by the Owner to the Contractor, at any time during the term of the Agreement, the Owner determines that maintaining the Agreement in force will harm, bring into disrepute, or affect the integrity of the Owner.

14.3.2 Upon termination of this Agreement under this Article, the Contractor shall remove all of his employees and property from the Project in a smooth, orderly, and cooperative manner.

14.3.3 The right of the Contractor to proceed shall not be terminated under Article 14.2 because of any delays in the completion of the Work due to unforeseeable causes beyond the control and without the fault or negligence of the Contractor or his Subcontractors as specifically set forth in Article 8, "DELAYS AND EXTENSIONS OF TIME."

14.3.4 If, after the Contractor has been terminated for default pursuant to Article 14.3, it is determined that none of the circumstances set forth in Article 14.3.1 exist, then such termination shall be considered a termination for convenience pursuant to Article 14.1. In such case, the Contractor's sole remedy will be costs permitted by Article 14.2.

14.3.5 If the Owner terminates the Contract, the Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the cost of completing the Work including compensation for additional managerial, administrative and inspection services and any damages for delay, such excess amount shall be paid to the Contractor. If such expenses exceed the unpaid balance, the Contractor and his sureties shall be liable to the Owner for such excess amount.

14.3.6 If the right of the Contractor to proceed with the Work is partially or fully terminated, the Owner may take possession of and utilize in completing the Work such materials, appliances, supplies, plant and equipment as may be on the site of the terminated portion of the Work and necessary for the completion of the Work. If the Owner does not fully terminate the right of the Contractor to proceed, the Contractor shall continue to perform the part of the Work that is not terminated.

14.4 GENERAL TERMINATION PROVISIONS

14.4.1 After receipt of a Notice of Termination from the Owner, pursuant to Article 14.1 or 14.3, and except as otherwise directed by the Owner, the Contractor shall:

- .1 Stop Work under the Contract on the date and to the extent specified in the Notice of Termination;
- .2 Place no further purchase orders or subcontracts for materials, services, or facilities, except as may be necessary for completion of such portion of the Work under the Contract that is not terminated;
- .3 Terminate all purchase orders and subcontracts to the extent that they relate to the performance of Work terminated by the Notice of Termination;
- .4 At the option of the Owner, assign to the Owner in the manner, at the times and to the extent directed by the Owner, all of the rights in the contracts so terminated, in which case, the Owner shall have the right, at his discretion, to settle or pay any or all claims arising out of the termination of such purchase orders and subcontracts;
- .5 Settle all outstanding liabilities and all claims arising out of such termination of purchase orders and subcontracts, with the approval

or ratification of the Owner, to the extent he may require, which approval or ratification shall be final for all the purposes of this Article;

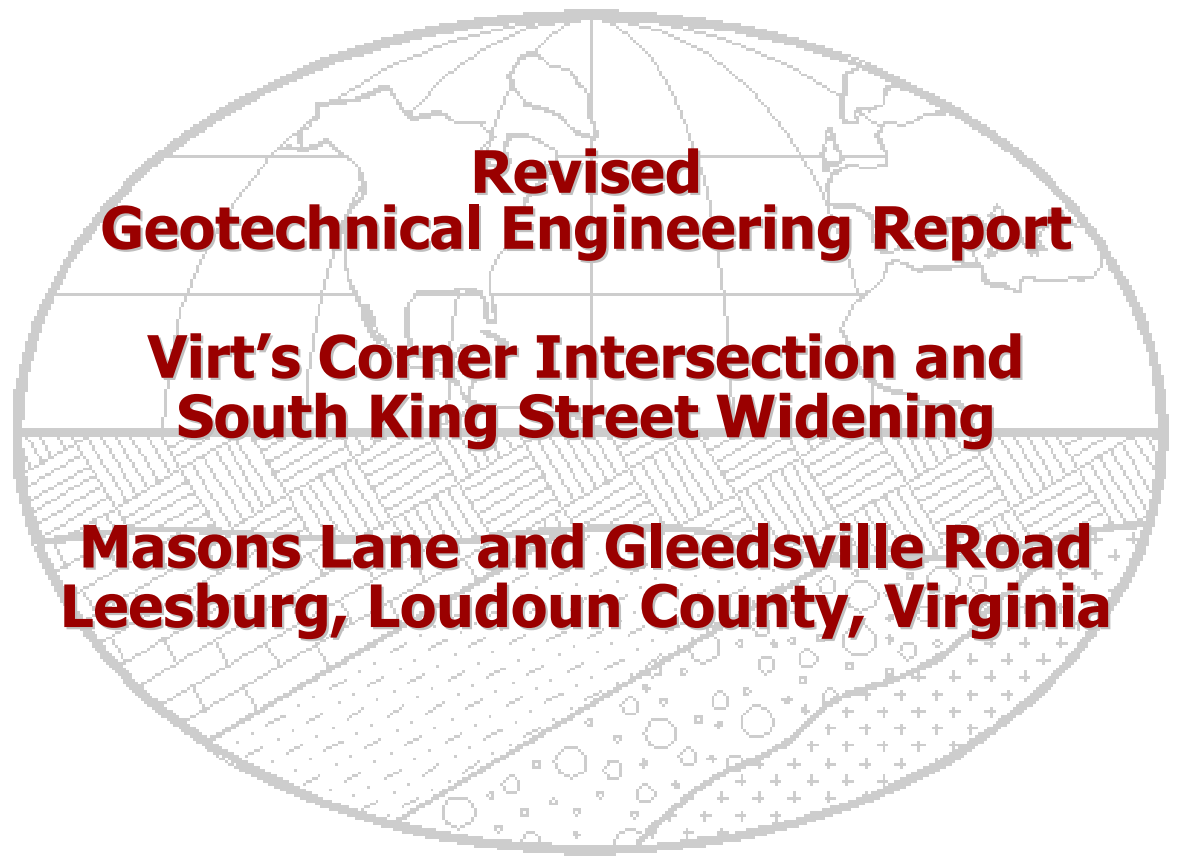
- .6 Transfer title and deliver to the entity or entities designated by the Owner, in the manner, at the times and to the extent directed by the Owner to the extent specifically produced or specifically acquired by the Contractor for the performance of such portion of the Work as has been terminated, the following:
 - a. The fabricated or unfabricated parts, Work in progress, partially completed supplies and equipment, materials, parts, tools, dies, jigs, and other fixtures, completed work, supplies and other material produced as part of, or acquired in connection with the performance of, the Work terminated by the Notice of Termination; and
 - b. The completed or partially completed plans, drawings, Shop Drawings, submittals, information, releases, manuals, and other property related to the Work and which, if the Contract had been completed, would have been required to be furnished to the Owner.
- .7 Use his best efforts to sell, in the manner, at the times, to the extent and at the price or prices directed or authorized by the Owner or Owner's Project Manager, any property of the types referred to in Article 14.4.1.6; provided, however, that the Contractor:
 - a. Shall not be required to extend credit to any buyer; and
 - b. May acquire such property under the conditions prescribed by and at a price or prices approved by the Owner; and provided further that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the Owner to the Contractor under the Contract or shall otherwise be credited to the Contract Price covered by the Contract or paid in such other manner as the Owner may direct;
- .8 Complete performance of such part of the Work as shall not have been terminated by the Notice of Termination; and
- .9 Take such action as may be necessary, or as the Owner or Owner's Project Manager may direct for the protection and preservation of

the property related to the Contract that is in the possession of the Contractor and in which the Owner has or may acquire an interest.

14.4.2 If the convenience termination, pursuant to Article 14.1, is partial, the Contractor may file with the Owner a claim for an equitable adjustment of the Contract Price relating to the continued portion of the Contract (the portion not terminated by the Notice of Termination) for costs increased because of such partial termination. Such equitable adjustment as may be agreed upon shall be made in the Contract Price. Any claim by the Contractor for an equitable adjustment under this Article must be submitted in writing to the Owner's Project Manager within sixty days from the Notice of Termination.

14.4.3 The Contractor shall refund to the Owner any amounts paid by the Owner to the Contractor in excess of costs reimbursed under Article 14.4 within sixty days of receipt of a written request from the Owner to do so.

END OF ARTICLE 14



**Revised
Geotechnical Engineering Report**

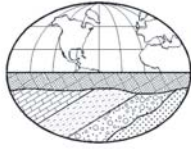
**Virt's Corner Intersection and
South King Street Widening**

**Masons Lane and Gleedsville Road
Leesburg, Loudoun County, Virginia**



**GeoConcepts
Engineering, Inc.**

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December 22, 2010

Mr. David "Bum" Phillips, PE
Paciulli Simmons & Associates, Ltd.
50 Catoctin Circle, NE, Ste 200
Leesburg, VA 20176

Subject: Revised Geotechnical Engineering Report, Virt's Corner Intersection and South King Street Widening, Masons Lane and Gleedsville Road, Leesburg, Loudoun County, Virginia (Our 27051)

Dear Mr. Phillips:

GeoConcepts Engineering, Inc. (GeoConcepts) is pleased to present this revised geotechnical engineering report for the above referenced project. A revised geotechnical engineering report dated January 6, 2010 was submitted previously. These services have been performed in accordance with our revised proposal/agreement dated December 18, 2007 and our Revised Addendum No. 1 dated October 7, 2010.

1.0 Scope of Services

This geotechnical engineering report presents the results of the field investigation, soil laboratory testing, and engineering analysis of the geotechnical data. This report specifically addresses the following:

- An evaluation of subsurface conditions within the areas of the proposed roadway improvements and stormwater management pond.
- An assessment of subgrade conditions for support of flexible pavements.
- Recommended pavement sections and the overlay design based on design California Bearing Ratio (CBR) values and traffic loading information provided to us by others.
- Earthwork recommendations for construction of roadway fills, including an assessment of on-site soils to be excavated for re-use as fill and/or backfill and recommendations for final pavement subgrade preparation.
- Recommendations regarding construction of the stormwater management pond, including embankment and outlet works foundation support, embankment fill construction, and internal seepage devices.
- Recommendations regarding rock excavation for the site development.
- Comments on utility installations, including excavation support requirements and bearing subgrade materials.

Services not specifically identified in the contract for this project are not included in the scope of services.

2.0 Executive Summary

We have prepared this executive summary solely to provide a general overview. Do not rely on this executive summary for any purpose except that for which it was prepared. Rely only on the full report for information about findings, recommendations, and other concerns.

- Pavements may be supported by natural soils, new compacted fill, or existing fill left in place. It is likely that undercutting of soft existing fill soils will be required and should be budgeted. A preliminary design CBR value of 4 was used in the pavement design.
- Soils from on-site cuts may generally be re-used as compacted fill; however, high plasticity soils (MH, CH) should only be used as compacted fill to within 2 feet of pavement subgrade. When using disintegrated rock as fill, the maximum particle size should be limited to 8 inches in their longest dimension and the material should contain enough soil fines to effectively fill the void space between larger particles.
- The majority of excavations to reach proposed pavement grades should generally be feasible using normal earth moving equipment; however, rock excavation methods such as hoe-ramming or blasting may be required for some of the site development. Rock excavation methods such as hoe-ramming or blasting may be required for utility excavations. A definition of rock requiring hoe-ramming or blasting and recommended bid document language regarding rock excavation is presented herein.
- It should be feasible to construct the stormwater management (SWM) pond planned for the site improvements. Recommendations regarding SWM construction, including outlet works foundation support and internal seepage devices are presented herein.

3.0 Site Description and Proposed Construction

Virt's Corner is located in Leesburg, Virginia and currently has three roads intersecting: South King Street (Route 15), Masons Lane, and Gleedsville Road. South King Street is a frequently traveled roadway in Loudoun County. Masons Lane and Gleedsville Road have fluctuating traffic loads depending upon the time of the day. Masons Lane connects to Evergreen Mills Road where Heritage High School is located, and Gleedsville Road intersects with Masons Lane where a church is located. A site vicinity map is presented as Figure 1 at the end of this report.

A new traffic pattern has been proposed that will have two intersections, turning lanes, and an acceleration lane. It is our understanding that one intersection of Gleedsville Road and Masons Lane is planned approximately 175 feet east of the existing intersection, and the second intersection of South King Street and Masons Lane will be approximately 75 feet north of the existing intersection. South King Street will have a right turning lane and an acceleration lane on the northbound side of the road. In addition, Route 15 will have two new northbound lanes from approximately Evergreen Mills Road to the entrance to the animal park south of Virt's Corner. Existing traffic lanes in South King Street will turn into two southbound lanes and the surface asphalt will be milled and overlaid. A stormwater management dry

pond will be constructed south of the intersection of South King Street and Masons Lane. Additionally, an existing 15-inch diameter storm sewer pipe will be removed and replaced with a 48-inch reinforced concrete storm sewer pipe on the north side of Greenway Drive extending approximately 600 LF west of the intersection with South King Street.

4.0 Subsurface Conditions

Subsurface conditions were investigated by drilling a total of 43 soil test borings in the proposed pavement area and three soil test borings in the proposed storm water management pond area. Test boring logs and a boring location plan are presented in Appendix A.

4.1 Stratification

The subsurface materials encountered have been stratified for purposes of our discussions herein. These stratum designations do not imply that the materials encountered are continuous across the site. Stratum designations have been established to characterize similar subsurface conditions based on material gradations and parent geology. The subsurface materials encountered in the test borings completed at the site have been assigned to the following strata:

Stratum A (Existing Fill)	generally stiff sandy lean clay and lean clay FILL with sand and gravel, moist, brown
Stratum B (Alluvial Deposits)	medium stiff LEAN CLAY (CL) with sand, moist to wet, gray and brown
Stratum C1 (Catharpin Creek Formation)	generally medium stiff to stiff LEAN CLAY (CL) and ELASTIC SILT (MH) and generally loose to firm clayey SAND (SC) and clayey GRAVEL (GC) with sand, organics, and rock fragments, dry to wet, brown and red-brown
Stratum C2 (Catharpin Creek Formation)	very compact DISINTEGRATED ROCK, moist to wet, brown
Stratum D1 (Balls Bluff Siltstone Formation)	generally medium stiff to stiff LEAN CLAY (CL) to clayey GRAVEL (GC), with sand and rock fragments, moist, brown, red-brown, and gray
Stratum D2 (Balls Bluff Siltstone Formation)	very compact DISINTEGRATED ROCK, moist, brown

Topsoil was encountered in the test borings to depths ranging from about 3 to 9 inches below the existing ground surface. Asphalt and gravel base was encountered in various depths across the site and the results of our findings are summarized below in Table 1.

Table 1

Street Name	Boring No.	Asphalt (in inches)	Gravel Base (in inches)
Gleedsville Road	B-1	5	6
Masons Lane	B-6	5	4
South King Street	B-12	10	8
	B-17	8	9
	B-23	7.5	8.5
	B-28	12.5	5.5
	B-32	---	7
	B-34	14	7
	B-35	---	7
	B-36	---	10
	B-37	---	8
B-39	---	4	

Topsoil depths presented herein should not be considered as stripping depths, as stripping depths may vary widely. Stripping depths will probably extend to greater depths than the topsoil depths indicated herein due to the presence of minor amounts of organics, roots, and other surficial materials that will require removal as a part of the stripping operations. In addition, seasonal soil moisture variations can affect stripping depths. In general, less stripping may occur during summer months when drier weather conditions can be expected.

The two letter designations included in the strata descriptions presented above and on the test boring logs represent the Unified Soil Classification System (USCS) designations for the samples based on visual classifications conducted in the field during the subsurface investigation. Visual classifications were made using the methods described in ASTM D-2488, and may not match classifications determined by laboratory testing per ASTM D-2487.

4.2 Geology

The Virt's Corner Intersection site lies within the Piedmont Physiographic Province of Virginia. The Piedmont is bordered to the east by the Coastal Plain Physiographic Province and to the west by the Blue Ridge Physiographic Province and contains several fault bordered basins. Bedrock in the Piedmont typically consists of highly weathered metamorphic and igneous bedrock. Surface topography in the Piedmont is the result of millions of years of erosion. Specifically, the site lies within the Culpeper Triassic Basin that formed as the result of continental rifting during the Mesozoic Geologic Era. The bedrock at

this site consists primarily of Catharpin Creek formation sandstone, siltstone, and conglomerate from the Jurassic Geologic Period and Ball's Bluff formation sandstone, siltstone, and conglomerate from the Triassic Geologic Period.

The existing fill of Stratum A is believed to have been placed during previous site grading for construction of existing roadways. The natural soils assigned to Stratum B are believed to be alluvial deposit associated with nearby Tuscarora Creek deposited during the Quaternary Geologic Period.

The soils of Stratum C1 are residual materials derived from the chemical and physical weathering of the sandstone, siltstone, or conglomerate bedrock of the Catharpin Creek Formation. Stratum C2 is designated the disintegrated rock portion of the Catharpin Creek Formation bedrock. Disintegrated rock may exhibit rock-like characteristics, depending on the degree of weathering.

The soils of Stratum D1 are residual materials derived from the chemical and physical weathering of the siltstone and sandstone bedrock of the Balls Bluff Siltstone. Stratum D2 is designated the disintegrated rock portion of the Balls Bluff Siltstone bedrock.

4.3 Groundwater

Groundwater level observations were made in the field during drilling and up to 24 hours after the completion of the test borings B-2 to B-5 and SWM-1 to SWM-3. The rest of the boreholes were backfilled upon completion for safety concerns. Groundwater was encountered between 1.5 and 18.0 feet below the existing ground surface during drilling. However, upon completion groundwater was observed at a depth of about 4 or at elevation EL 308.5 in the location of test boring B-43. We believe the water encountered during drilling represented a perched water condition related to surface runoff and precipitation.

The groundwater observations presented herein are considered to be an indication of the groundwater levels at the dates and times indicated. Where more impervious Strata B, C1, and D1 clayey soils are encountered, the amount of water seepage into the borings is limited, and it is generally not possible to establish the location of the groundwater table through short term water level observations. Accordingly, the groundwater information presented herein should be used with caution. Also, fluctuations in groundwater levels should be expected with seasons of the year, construction activity, changes to surface grades, precipitation, or other similar factors.

4.4 Soil Laboratory Test Results

Selected soil samples obtained from the field investigation were tested for grain size distribution, Atterberg limits, standard Proctor, California Bearing Ratio (CBR), and natural moisture contents. A summary of soil laboratory test results is presented as Appendix B. The results of natural moisture content tests are presented on the test boring logs in Appendix A.

A sample tested from Stratum A classified as LEAN CLAY (CL) with gravel in accordance with the USCS, with about 77 percent fines passing the US Standard No. 200 sieve. The liquid limit and plasticity index were 32 and 12, respectively. The natural moisture content was 20.6 percent.

A sample tested from Stratum B classified as LEAN CLAY (CL) with sand in accordance with the USCS, with about 76 percent fines passing the US Standard No. 200 sieve. The liquid limit and plasticity index were 35 and 15, respectively. The natural moisture content was 21.1 percent.

Samples tested from Stratum C1 classified as ELASTIC SILT (MH) with sand, LEAN CLAY (CL) with sand, sandy LEAN CLAY (CL), sandy LEAN CLAY (CL) with gravel, and clayey GRAVEL (GC) with sand in accordance with the USCS, with about 29 to 75 percent fines passing the US Standard No. 200 sieve. Liquid limits and plasticity indices ranged from 33 to 68 and 11 to 43, respectively. Natural moisture contents ranged from 11.4 to 62.1 percent.

Samples tested from Stratum D1 classified as LEAN CLAY (CL) with sand and clayey GRAVEL (GC) with sand in accordance with the USCS, with about 46 to 84 percent fines passing the US Standard No. 200 sieve. Liquid limits and plasticity indices ranged from 25 to 31 and 8 to 13, respectively. Natural moisture contents ranged from 11.4 to 20.9 percent.

Laboratory CBR tests were performed on the soil materials expected to be encountered at the pavement subgrades in cut areas. The results of the CBR test results are summarized below in Table 2.

Table 2

Test Boring No.	USCS Symbol	CBR Value (%)
B-4	CL	4.2
B-7	MH	5.2
B-22	CL	15.7
B-38	CL	6.8

The CBR result from B-7 classified at an ELASTIC SILT (MH) which is considered an unsuitable material for pavement subgrades. Therefore, this result was not used in the pavement analysis presented in Section 5.1.

5.0 Engineering Analysis

Recommendations regarding pavements, earthwork, the stormwater management pond, and rock excavation are presented herein.

5.1 Pavements

Pavement subgrades are expected to consist of natural soils or new compacted fill constructed from cuts of the on-site materials. These materials are generally considered suitable for support of the planned roadways. However, the high plasticity elastic silt (MH) soils of Stratum C1 are susceptible to softening and excessive shrink/swell. Accordingly, where high plasticity MH soils, or fat clay (CH) soils are present at pavement subgrades, these soils should be removed to a minimum depth of 2 feet below pavement subgrades, or until no longer present. Also, if existing fill is encountered at pavement

subgrades, it should be removed to a minimum depth of 2 feet below pavement subgrades, or until no longer present. The undercut areas can be brought back to original pavement subgrade elevations using compacted fill as detailed in Section 5.2 of this report.

Based on the CBR test results presented in Section 4.4 of this report for the on-site materials, a preliminary design CBR value of 4 was determined. The design CBR value of 4 represents the mathematical average of the tests multiplied by two-thirds, rejecting the highest CBR value of 15.7 and also the CBR value of the elastic silt material. If fill placed at the site is generated from off-site borrow areas, the actual CBR value for the pavement subgrades may be significantly different from the preliminary value presented herein. Therefore, CBR tests should be performed on the in-place subgrade after rough grading and installation of utilities within roadways. Final pavement sections should be based on CBR tests taken on subgrade soils at the time of construction.

Estimated traffic loading was developed using information from VDOT's 2007 Traffic Data Publications on South King Street (Route 15), Gleedsville Road, and Masons Lane and discussions with Paciulli Simmons and Associates, Ltd. The recommended pavement sections for Gleedsville Road and Masons Lane presented herein are in accordance with VDOT's Pavement Design Guide for Subdivision and Secondary Roads. The pavement sections recommended for South King Street are in accordance with the 1993 AASHTO Pavement Design and Analysis System and Chapter VI of VDOT's Manual of Instructions (MOI). We have used AASHTO and VDOT's MOI Chapter VI for South King Street because the functional classification of South King Street is major arterial and Vaswani's method is not applicable for major arterial. A design period of 20 years with a traffic growth rate of 1.5% has been assumed for the new pavement sections at South King Street northbound lanes. The design of new pavement sections at Gleedsville Road and Masons Lane is based on the projected traffic volume for the mid point of the 20 year design period (i.e., 10 years) after completion of roadway construction. For existing South King Street southbound lanes, a design period of 15 years overlay with a traffic growth rate of 1.5% has been assumed. Based on the design CBR value of 4 and estimated traffic loading, the following flexible pavement sections for new South King Street northbound lanes, and Gleedsville Road and Masons Lane are recommended below in Table 3 for this site.

Table 3

	<i>New South King Street Northbound Lanes (inches)</i>	<i>Masons Lane New Section (inches)</i>	<i>Gleedsville Road New Section (inches)</i>
<i>Bituminous Concrete Surface Course (SM 9.5D)</i>	2.0	2.0	2.0

	<i>New South King Street Northbound Lanes (inches)</i>	<i>Masons Lane New Section (inches)</i>	<i>Gleedsville Road New Section (inches)</i>
<i>Bituminous Concrete Intermediate Course (IM 19.0A)</i>	2.0	N/A	N/A
<i>Bituminous Concrete Base Course (BM 25.0A)</i>	5.0	3.0	3.0
<i>Asphalt Stabilized OGDL *</i>	4.0	N/A	N/A
<i>Cement Treated Aggregate</i>	6.0	6.0	6.0

N/A indicates a layer is not needed.

*Open Graded Drainage Layer

For South King Street existing lanes which will turn into southbound lanes, we recommend milling 3 inches of existing pavement and overlay the milled surface with materials presented in Table 4 below. The pavement design calculations are presented in Appendix C of this report.

Table 4

	<i>South King Street Southbound Lanes Overlay (in inches)</i>
<i>Bituminous Concrete Surface Course (SM 9.5D)</i>	2.0
<i>Bituminous Concrete Intermediate Course (IM 19.0A)</i>	2.0

VDOT recommends areas with slow traffic and standing traffic such as intersections which result in extreme pavement loadings to have a binder with high stiffness to resist movement under load. Recommendations regarding the asphalt mix design at the intersections are presented in Table 5. We recommend a minimum of 150 feet radius from center point of each intersection to apply this mix design.

Table 5

	<i>Surface</i>	<i>Intermediate</i>	<i>Base</i>
<i>Intersections</i>	SM 9.5E	IM 19.0D	BM 25.0D

The recommended pavement sections consider post-construction traffic conditions, and do not take into account construction traffic. Construction loading conditions may be more severe than post-construction conditions and typically occurs prior to placement of the total pavement section recommended herein. Construction traffic activity on partially constructed pavement sections may result in subgrade and pavement failures due to the reduced support qualities of a partial section and the

relatively heavy loads associated with construction traffic. Accordingly, consideration should be given to the construction of designated haul roads where the thickness of the granular subbase and/or asphalt base course has been increased to account for the heavier-loaded construction traffic. We suggest that placement of the asphalt surface course not occur until all the major construction has been completed for pavement areas subjected to construction traffic.

Proper drainage is imperative in the design and construction of flexible pavements. Accordingly, a drainage system should be installed to reduce the amount of moisture that collects at the pavement subgrade. The roadway shoulder or adjacent ground should be graded so that surface drainage runs away from the pavement and does not stand on the pavement's edge. The South King Street pavement subdrainage should consist of a longitudinal pavement edge drain (VDOT UD-4) that is integrally connected to the aggregate subbase layer. Details regarding this recommendation are presented on Figure 2 at the end of this report. In accordance with VDOT's MOI Chapter VI, VDOT UD-4 is needed only at South King Street. We recommend tying in or matching the aggregate base layers to promote drainage through the pavement section. The overall grading design should include suitable storm inlets, pavement underdrains and diversion structures for collecting surface runoff and to limit excessive ponding on paved surfaces. Specific surface drainage recommendations are beyond the scope of our services.

5.2 Earthwork

Fill will be required for the proposed roadway construction. A typical compacted fill diagram is presented as Figure 3 at the end of this report. All earthwork procedures should conform to Section 303 of the VDOT Road and Bridge Specifications. The areas to be filled should be cleared and grubbed prior to placing fill. Unsuitable existing fill, soft or loose natural soils, organic material, etc. should be stripped to approved subgrades as determined by the geotechnical engineer. The actual depth of stripping necessary to provide a suitable base for placement and compaction of earthwork may include topsoil and other soft surficial layers with or without organic matter. All subgrades should be proofrolled with a minimum 10 ton, loaded dump truck or suitable rubber tire construction equipment approved by the geotechnical engineer, prior to the placement of new fill. Fill material should be compacted in lifts not exceeding 8-inches loose thickness, to at least 95 percent of the maximum dry density per VTM-1. The upper 6-inch of pavement subgrades should be compacted to at least 100 percent of the maximum dry density per the same standard. Fill placed along slopes steeper than 5H:1V should be benched into the existing slope. Benches should consist of minimum 8 feet wide level cut, and at least one such bench should be used for each 3 feet of vertical rise of fill placed.

It is expected that the majority of soils excavated at the site will be suitable for re-use as fill based on classification, except that the high plasticity soils (MH and CH) and existing fill should only be used as compacted fill to within 2 feet of pavement subgrade. Soft or loose soils, high plasticity soils, and existing fill encountered at pavement subgrades should be removed to a minimum depth of 2 feet

below subgrade, or until no longer present, and replaced with properly compacted fill material with a minimum CBR value of 5. Materials used for compacted fill for support of the roadway or backfill for utilities should consist of soils classifying CL, ML, SC, SM, SP, SW, GC, GM, GP, or GW per ASTM D-2487. SWM embankment fill material should consist of soils classifying CL or ML per ASTM D-2487, and be equivalent to A-4 or finer per the AASHTO soil classification system.

Drying of excavated soils by spreading and aerating may be necessary to obtain proper compaction. This may not be practical during the wet period of the year. Accordingly, earthwork operations should be planned for early Spring through late Fall, when drier weather conditions can be expected. Drying of fill materials by the use of lime may also be considered. However, in the event that lime is used, refer to the VDOT Road and Bridge Specifications for more specific details regarding the percentage of lime used and installation techniques. Individual borrow areas, both from on-site and off-site sources, should be sampled and tested to verify classification of materials prior to their use as fill.

The disintegrated rock of Strata C2 and D2 may also be suitable for re-use as fill. With limited exposure and manipulation, the disintegrated rock will eventually breakdown into smaller size particles. If the disintegrated rock is placed in a fill without sufficient fines to fill void spaces adjacent to larger size particles, degradation of the larger disintegrated rock particles may result in collapse of the individual void spaces, and subsequent undesirable settlement. In order to prevent the improper placement of disintegrated rock materials due to the non-durable nature of this material, we recommend that the disintegrated rock be placed as a soil fill and not as rock fill. This will require that sufficient mechanical effort be used to breakdown and crush the disintegrated rock into particles not larger than 8 inches in mean diameter, with approximately 50 percent materials passing the US Standard No. 40 sieve. These criteria should be able to be met by compacting with a CAT 815 sheepsfoot roller or similar sized equipment, in lifts not exceeding 8 inches in thickness prior to compaction.

Fill materials should not be placed on frozen or frost-heaved soils, and/or soils that have been recently subjected to precipitation. All frozen or frost-heaved soils should be removed prior to continuation of fill operations. Borrow fill materials should not contain frozen materials at the time of placement.

Compaction equipment that is compatible with the soil type used for fill should be selected. Theoretically, any equipment type can be used as long as the required density is achieved; however, sheepsfoot roller equipment are best suited for fine-grained soils and vibratory smooth drum rollers are best suited for granular soils. Ideally, a smooth drum roller should be used for sealing the surface soils at the end of the day or prior to upcoming rain events. All areas receiving fill should be graded to facilitate positive drainage of any water associated with precipitation and surface run-off.

After completion of compacted fill operations in pavement areas, asphalt operations should begin immediately, or the finished subgrade should be protected from exposure to inclement weather conditions. Exposure to precipitation and freeze/thaw cycles will cause the finished subgrade to soften and become excessively disturbed. If development plans require that finished subgrades remain exposed

to weather conditions after completion of fill operations, additional fill should be placed above finished grades to protect the newly placed fill. Alternatively, a budget should be established for reworking of the upper 1 to 2 feet of previously placed compacted fill.

5.3 Stormwater Management Pond

As part of this development, a stormwater management pond will be constructed south of the intersection of South King Street and Masons Lane. We have assumed that the pond will be dry pond with no normal pool elevation. However, if the pond is designed as a "wet" pond with a permanent pool water level, we should review the design as it may be necessary to modify the recommendations presented herein.

The proposed SWM pond will generally be constructed in cut, with cut up to about 10 feet to reach the bottom of the SWM pond. According to Chapter 11 of the VDOT Drainage Manual, SWM pond embankment and pond subgrade materials should be classified as A-4 or finer soils per the AASHTO soil classification system. According to the proposed bottom elevation of SWM pond, the subgrade materials at the SWM pond will generally consist of A-6 (lean clay). However, in test boring SWM-2 subgrade material at the SWM pond was classified as A-2-7 (clayey gravel), which is coarser than A-4 material per the AASHTO soil classification system. For budgeting purposes, we recommend that a clay liner be planned for the pond. However, it is possible the clayey gravel may be adequate to limit seepage. We recommend that permeability tests be performed on the SWM pond subgrade materials and the use of clay liner should be based on permeability tests taken on subgrade soils at the time of construction.

The outlet works for the pond are expected to consist of a precast concrete riser and an outlet pipe. An allowable soil bearing pressure of 2,500 psf is recommended for the riser foundation when founded on the natural soils. To minimize the potential for excess seepage along the exterior of the outlet pipe, we recommend a concrete cradle be placed below the pipe from the riser pipe to a distance of two-thirds of their total length. The cradle should be at least 6 inches thick, and placed directly on top of undisturbed natural soil to a level equal to or above the spring line of the pipe. The last one-third of the outlet pipe should be constructed with a 12-inch gravel drainage layer and 12-inch filter layer surrounding the pipes on all sides. The gravel drainage layer should meet the requirements of VDOT Designation No. 8 crushed stone and filter layer should meet the requirements of ASTM C-33 fine concrete aggregate. Water that accumulates in the drainage layer should be collected and outletted through perforated, 4-inch diameter PVC pipes, and discharged through the head wall or beyond the downstream toe of the embankment. Details regarding seepage control measures are presented on Figures 4 and 5.

We understand that the majority of the embankment for the SWM pond will be in cut. However, in the event compacted fill is required for the embankments, fill materials should classify as CH, MH, CL, or ML. Fill should be placed in 8 inch maximum loose lifts and be compacted to 95 percent of the maximum dry density per VTM-1. Preparation of fill subgrades, and other earthwork related

recommendations were previously presented in Section 5.2 of this report. Also, any existing fill in proposed embankment areas should be completely removed down to natural soils and replaced with new compacted fill as necessary to reach final grades. Prior to placement of any new fill, a geotechnical representative should observe the embankment fill subgrades to verify that they are suitable to receive new fill. Maximum side slopes of the embankment should be 3H:1V, and should be planted with relatively dense grass vegetation to prevent erosion.

5.4 Rock Excavation

The majority of excavations to reach proposed subgrades should generally be feasible using normal earth moving equipment. The estimated elevations where rock may be encountered at the test boring locations are presented below in Table 6.

Table 6

Test Boring No.	Estimated Elevation of Bedrock
B-5	Below EL 382
B-19	EL 376
B-33	Below EL 342.5
B-35	EL 339
B-37	EL 338
B-38	EL 326
SWM-2	Below EL 383
B-46	EL 358

The elevations given above are based upon the use of normal earth excavation equipment including up to a D-8 Caterpillar tractor, equipped with a hydraulically operated single-tooth power ripper or equivalent, for mass excavation. Project specifications should include the following as a definition of rock excavation for mass excavation: "Rock is defined as any material which cannot be dislodged by a D-8 Caterpillar tractor, or equivalent, equipped with a hydraulically operated, single-tooth power ripper without the use of hoe-ramming or blasting. This classification does not include material such as loose rock, concrete or other materials that can be removed by means other than hoe-ramming or blasting, but which for reasons of economy in excavating, the contractor chooses to remove by hoe-ramming or blasting."

For trench excavations, rock excavation should be defined in terms of a Caterpillar 330 hydraulic backhoe, or equivalent, instead of the D-8 Caterpillar tractor. Earthwork excavation should be defined as all material except rock as defined above, including material that can be ripped.

5.5 Utility Installations

According to plans provided to us, the proposed underground storm sewer north of Greenway Drive will be placed a maximum of 12 feet below existing grades. We generally expect that firm natural soils will be encountered at utility subgrades, which should be suitable for support of utilities. Accordingly, we do not recommend that any special bedding be specified, and that construction of utility trenches is performed in accordance with the proposed pipe type and specifications.

The solutional weathering characteristics of limestone conglomerate bedrock produce abrupt transitions between somewhat compressible natural soils and incompressible limestone conglomerate bedrock. Because of these abrupt transitions, we recommend that the limestone conglomerate bedrock, if encountered, be undercut to 2 feet below pipe subgrade elevation. This undercutting strategy will limit the magnitude of any differential settlement at the residual soil/bedrock interface. Undercut areas along the pipe subgrade should be backfilled with compacted soil fill or AASHTO No. 57 stone as detailed in Section 5.2 of this report.

The excavations may be constructed by laying back the earth with temporary slopes. Based on the on-site soils, an OSHA type B soil classification should be used for design of earth slopes. A type B classification requires a maximum allowable slope of 1H:1V for excavations less than 20 feet in depth. Any benching of excavations should be performed in accordance with OSHA and VOSHA requirements.

6.0 General Limitations

Recommendations contained in this report are based upon the data obtained from the relatively limited number of test borings. This report does not reflect conditions that may occur between the points investigated, or between sampling intervals in test borings. The nature and extent of variations between test borings and sampling intervals may not become evident until the course of construction. Therefore, it is essential that on-site observations of subgrade conditions be performed during the construction period to determine if re-evaluation of the recommendations in this report must be made. It is critical to the successful completion of this project that GeoConcepts be retained during construction to observe the implementation of the recommendations provided herein.

This report has been prepared to aid in the evaluation of the site and to assist your office and the design professionals in the design of this project. It is intended for use with regard to the specific project as described herein. Changes in proposed construction, grading plans, structural loads, etc. should be brought to our attention so that we may determine any effect on the recommendations presented herein.

An allowance should be established for additional costs that may be required for foundation and earthwork construction as recommended in this report. Additional costs may be incurred for various reasons including wet fill materials, soft subgrade conditions, unexpected groundwater problems, unexpected rock excavation, etc.

This report should be made available to bidders prior to submitting their proposals to supply them with facts relative to the subsurface conditions revealed by our investigation and the results of analyses and studies that have been performed for this project. In addition, this report should be given to the successful contractor and subcontractors for their information only.

We recommend the project specifications contain the following statement: "A geotechnical engineering report has been prepared for this project by GeoConcepts Engineering, Inc. This report is for informational purposes only and should not be considered part of the contract documents. The opinions expressed in this report are those of the geotechnical engineer and represent their interpretation of the subsoil conditions, tests and results of analyses that they performed. Should the data contained in this report not be adequate for the contractor's purposes, the contractor may make their own investigations, tests and analyses prior to bidding."

This report was prepared in accordance with generally accepted geotechnical engineering practices. No warranties, expressed or implied, are made as to the professional services included in this report.

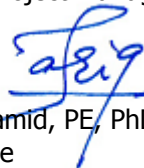
We appreciate the opportunity to be of service for this project. Please contact the undersigned if you require clarification of any aspect of this report.

Sincerely,

GEOCONCEPTS ENGINEERING, INC.



Rebecca L. Smith-Zakowicz, CPG
Senior Project Manager



Tariq Hamid, PE, PhD
Associate

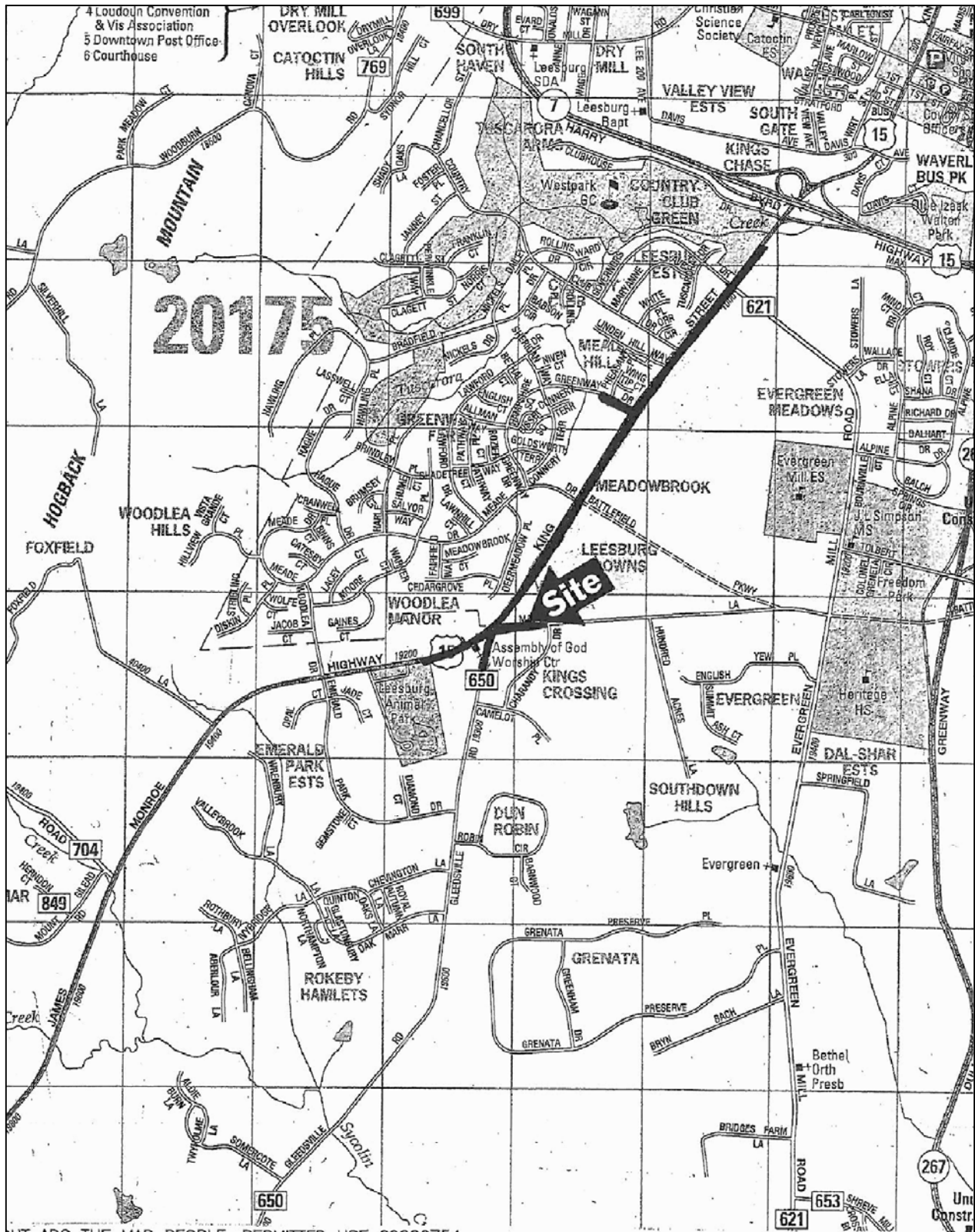
Tadeusz W. Lewis, PE
Principal



- Figure 1: Site Vicinity Map
- Figure 2: Subdrainage Design Recommendations
- Figure 3: Compacted Structural Fill Diagram
- Figure 4: Embankment Dam Design Recommendations
- Figure 5: Embankment Dam Sections

- Appendix A: Subsurface Investigation Report
- Appendix B: Soil Laboratory Test Report
- Appendix C: Pavement Analysis

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VIRT'S CORNER INTERSECTION & SOUTH KING STREET WIDENING, LEESBURG, VIRGINIA

SITE VICINITY
MAP

Scale:
N.T.S.

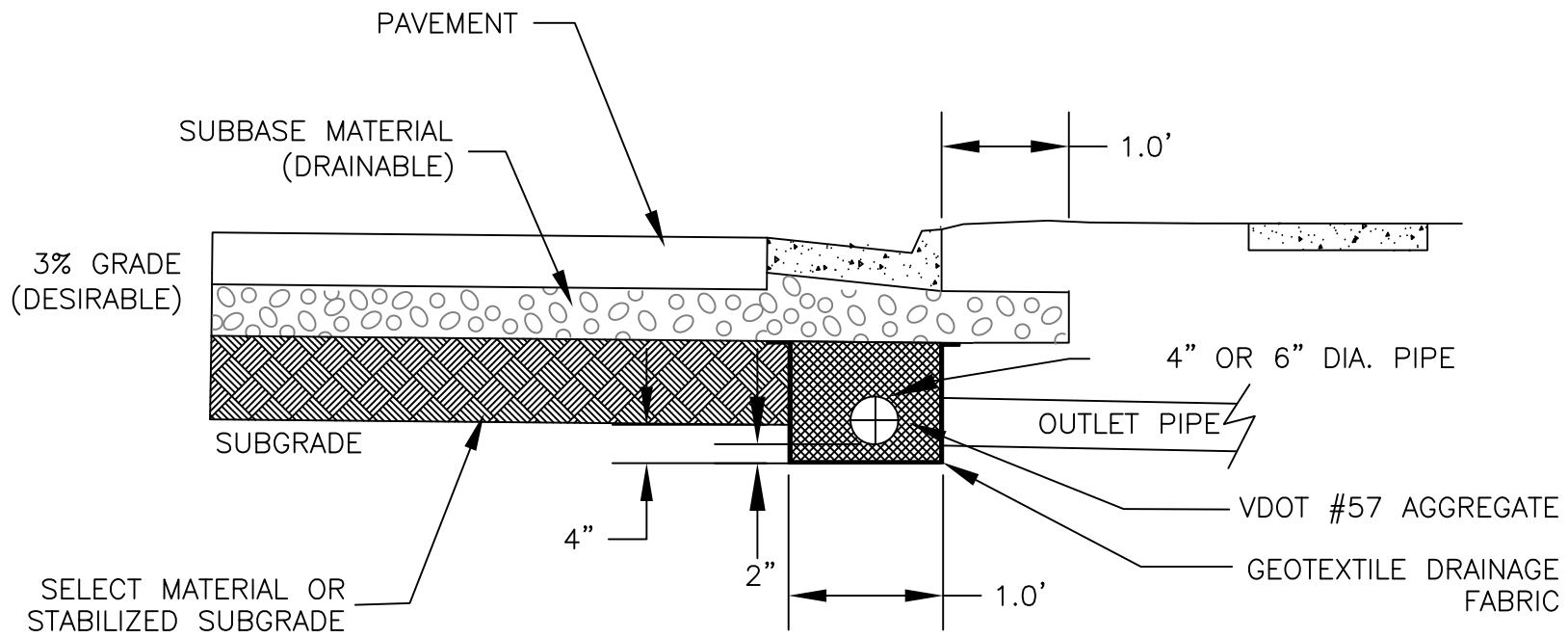
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27051

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N:\PROJECTS\Active 07 Projects\27051\Final\UPDATED GER 12-09-2010\FIG 2, PAVEMENT UNDERDRAIN VDOT UD-4.dwg

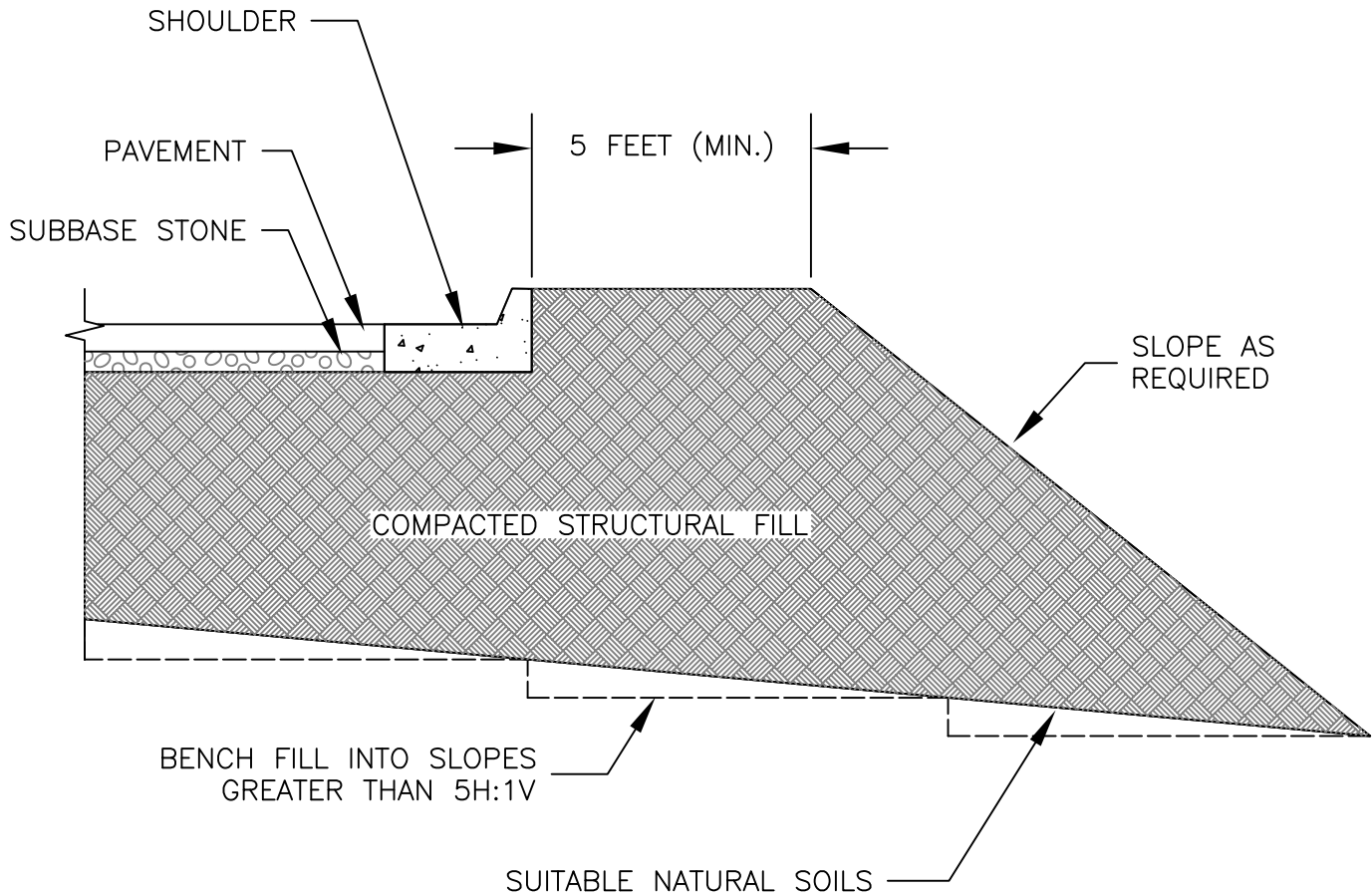


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VIRT'S CORNER INTERSECTION & SOUTH KING
 STREET WIDENING, LEESBURG, VIRGINIA

UD-4 PAVEMENT UNDERDRAIN DETAIL		Scale: N.T.S.	Fig. 2
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N:\PROJECTS\Active 07 Projects\27051\Final\UPDATED GER 12-09-2010\FIG 3, CSF DIAGRAM (PA'



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VIRT'S CORNER INTERSECTION & SOUTH KING
STREET WIDENING, LEESBURG, VIRGINIA

COMPACTED STRUCTURAL
FILL DIAGRAM

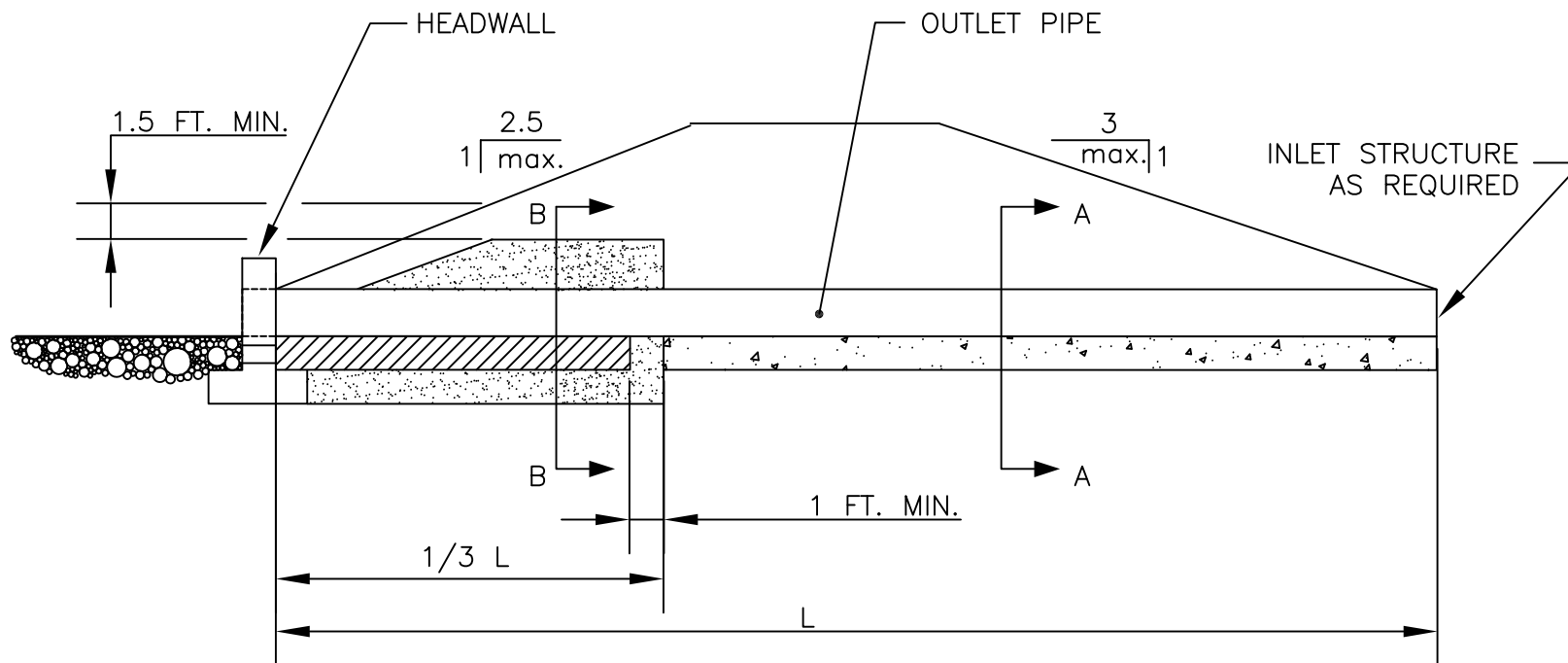
Scale:
N.T.S.

Date:
DEC 2010


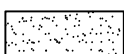
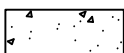
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Fig.
3



LEGEND

-  STONE DRAINAGE MATERIAL
-  SAND FILTER MATERIAL
-  CONCRETE CRADLE



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N:\PROJECTS\Active 07 Projects\27051\Final\UPDATED GER 12-09-2010\FIG 4, EARTH DAM CROSS-SECTION

VIRT'S CORNER INTERSECTION & SOUTH KING
STREET WIDENING, LEESBURG, VIRGINIA

EMBANKMENT DAM DESIGN
RECOMMENDATIONS

Scale:
N.T.S.

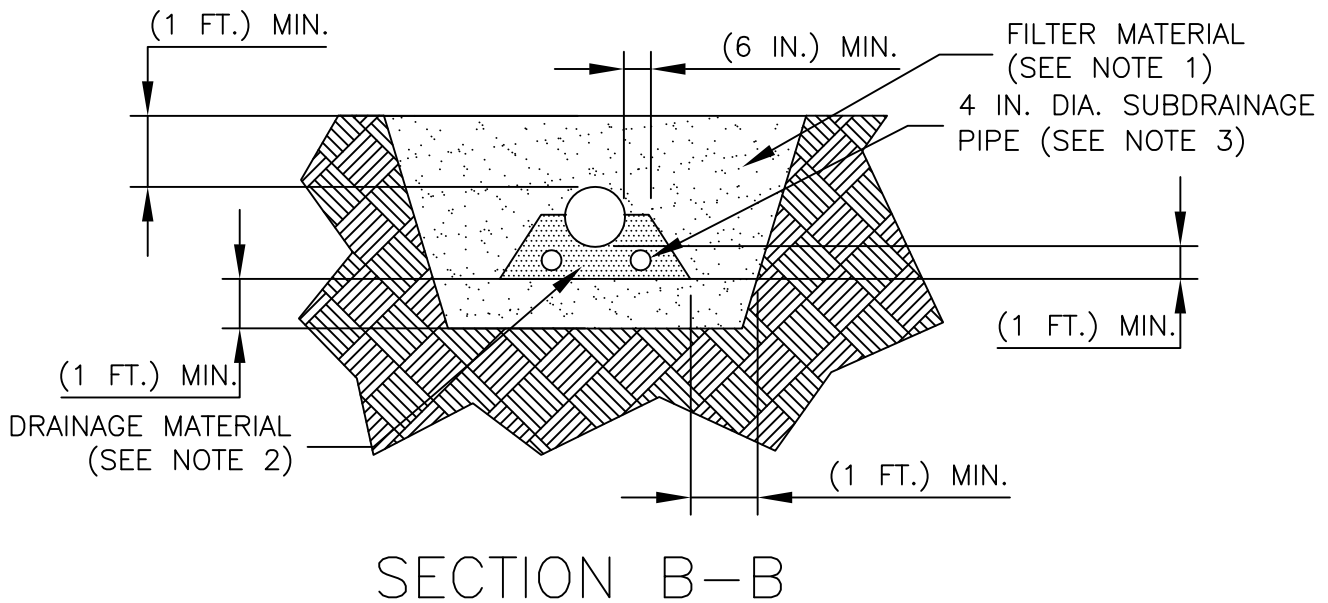
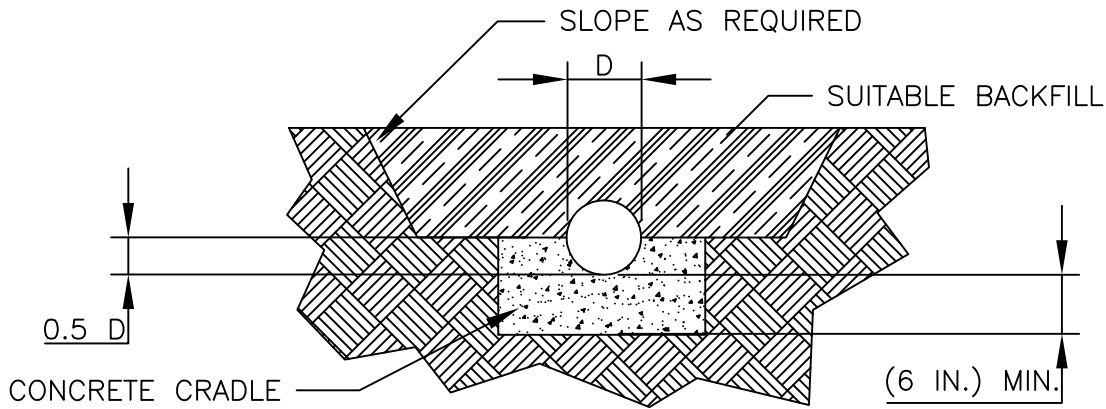
Fig.

Date:
DEC 2010

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27051

4



NOTES:

- 1) FILTER MATERIAL SHOULD MEET REQUIREMENTS FOR VDOT FINE AGGREGATE (ASTM C-33).
- 2) DRAINAGE MATERIAL SHOULD MEET REQUIREMENTS FOR VDOT NO. 8 CRUSHED STONE.
- 3) SUBDRAINAGE PIPING SHOULD BE 4 IN. DIAMETER SLOTTED CORRUGATED POLYETHYLENE (PE) TUBING ACCORDING TO ASTM F-405 WITH A MAX. 1/8 IN. SLOT WIDTH FOR AT LEAST THE LOWER 120 DEGREE SECTOR.
- 4) WATER COLLECTED IN DRAINAGE MATERIAL SHOULD BE DISCARDED BY SUBDRAINAGE PIPE DAYLIGHTING AT THE DOWNSTREAM TOE.
- 5) ALL MATERIAL SHOULD BE PLACED AGAINST UNDISTURBED FIRM NATURAL SOILS OR COMPACTED FILL.
- 6) SEE FIGURE 4 FOR CROSS SECTION LOCATIONS.

N:\PROJECTS\Active 07 Projects\27051\Final\UPDATED GER 12-09-2010\FIG 5, EARTH DAM SECTIONS.dwg



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VIRT'S CORNER INTERSECTION & SOUTH KING
STREET WIDENING, LEESBURG, VIRGINIA

EMBANKMENT DAM SECTIONS

Scale:
N.T.S.

Fig.

Date:
DEC 2010

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T.W.L.

Project No.:
27051

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Subsurface Investigation Report

Subsurface Investigation Procedures (1 page)
 Identification of Soil (1 page)
 Test Boring Notes (1 page)
 Test Boring Logs (49 pages)
Boring Location Plan, Figures 6 to 12 (7 pages)

Subsurface Investigation Procedures

1. **Test Boring – Hollow Stem Augers**

The borings are advanced by turning an auger with a center opening of 3-¼ inches. A plug device blocks off the center opening while augers are advanced. Cuttings are brought to the surface by the auger flights. Sampling is performed through the center opening in the hollow stem auger, by standard methods, after removal of the plug. Usually, no water is introduced into the boring using this procedure.

2. **Standard Penetration Tests**

Standard penetration tests are performed by driving a 2 inch O.D., 1-¾ inch I.D. sampling spoon with a 140-pound hammer falling 30 inches, according to ASTM D-1586. After an initial 6 inches penetration to assure the sampling spoon is in undisturbed material, the number of blows required to drive the sampler an additional 12 inches is generally taken as the N value. In the event 30 or more blows are required to drive the sampling spoon the initial 6 inch interval, the sampling spoon is driven to a total penetration resistance of 100 blows or 18 inches, whichever occurs first. The sampling operation is terminated after a total of 100 hammer blows and the depth of penetration is recorded.

3. **Test Boring Stakeout**

The test boring stakeout was provided by the project civil engineer, Paciulli Simmons & Associates, Ltd. GeoConcepts located the three borings north of Greenway Drive and estimated the topography based on plans provided to us. We recommend having the locations surveyed professionally to confirm the locations and elevations.

IDENTIFICATION OF SOIL

I. DEFINITION OF SOIL GROUP NAMES

		ASTM D-2487	Symbol	Group Name
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels - More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines	GW	WELL GRADED GRAVEL
			GP	POORLY GRADED GRAVEL
		Gravels with Fines More than 12% fines	GM	silty GRAVEL
			GC	clayey GRAVEL
	Sands - 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines	SW	WELL GRADED SAND
			SP	POORLY GRADED SAND
		Sands with fines More than 12% fines	SM	silty SAND
			SC	clayey SAND
Fine-Grained Soils 50% or more passes the No. 200 sieve	Silts and Clays - Liquid Limit less than 50	Inorganic	CL	LEAN CLAY
			ML	SILT
		Organic	OL	ORGANIC CLAY
				ORGANIC SILT
	Silts and Clays - Liquid Limit 50 or more	Inorganic	CH	FAT CLAY
			MH	ELASTIC SILT
		Organic	OH	ORGANIC CLAY
				ORGANIC SILT
Highly Organic Soils	Primarily organic matter, dark in color, and organic odor	PT	PEAT	

II. DEFINITION OF MINOR COMPONENT PROPORTIONS

Minor Component Adjective Form
Gravelly, Sandy
With
Sand, Gravel
Silt, Clay

Approximate Percentage of Fraction by Weight

30% or more coarse grained

15% to 29% coarse grained
5% to 12% fine grained

III. GLOSSARY OF MISCELLANEOUS TERMS

- | | |
|---|---|
| SYMBOLS - | Unified Soil Classification Symbols are shown above as group symbols. Use "A" Line Chart for laboratory identification. Dual symbols are used for borderline classification. |
| BOULDERS & COBBLES - | Boulders are considered pieces of rock larger than 12 inches, while cobbles range from 3 to 12 inches. |
| DISINTEGRATED ROCK - | Residual rock material with a standard penetration test (SPT) resistance between 60 blows per foot and refusal. |
| ROCK - | Rock material with a standard penetration test (SPT) resistance of 100 blows for 2 inches or 50 blows for 0 inches, or less penetration |
| DECOMPOSED ROCK - | Residual rock material exhibiting rock-like properties that can be excavated by backhoe equipment. Similar to Disintegrated Rock, but cannot be classified as such because SPT N-Values were not obtained. |
| ROCK FRAGMENTS - | Angular pieces of rock, distinguished from rounded transported gravel, which have separated from original vein or strata and are present in a soil matrix. |
| QUARTZ - | A hard silicate mineral often found in residual soils. Only used when describing residual soils. |
| CEMENTED SAND - | Usually localized rock-like deposits within a soil stratum composed of sand grains cemented by calcium carbonate, iron oxide, or other minerals. Commonly encountered in Coastal Plain sediments, primarily in the Potomac Group sands (Kps). |
| MICA - | A plate-like phyllosilicate mineral found in many rocks, and in residual or transported soil derived therefrom. |
| ORGANIC MATERIALS (Excluding Peat) - | Topsoil - Surface soils that support plant life and contain organic matter.
Lignite - Hard, brittle decomposed organic matter with low fixed carbon content (a low grade of coal). |
| FILL - | Man made deposit containing soil, rock, and other foreign matter. |
| PROBABLE FILL - | Soils which contain no visually detected foreign matter but which are suspect with regard to origin. |
| LAYERS - | ½ to 12 inch seam of minor soil component. |
| COLOR - | Two most predominant colors present should be described. |
| MOISTURE CONDITIONS - | Wet, moist, or dry to indicate visual appearance of specimen. |

Test Boring Notes

1. Classification of soil is by visual inspection and is in accordance with the Unified Soil Classification System.
2. Estimated groundwater levels are indicated on the logs. These are only estimates from available data and may vary with precipitation, porosity of soil, site topography, etc.
3. Sampling data presents standard penetrations for 6 inch intervals or as indicated with graphic representations adjacent to the sampling data.
4. The logs and related information depict subsurface conditions at the specific locations and at the particular time when drilled. Soil conditions at other locations may differ from conditions occurring at the test locations. Also, the passage of time may result in a change in the subsurface conditions at the test locations.
5. The stratification lines represent the approximate boundary between soil types as determined in the sampling operation. Some variation may be expected vertically between samples taken. The soil profile, groundwater level observations and penetration resistances presented on the logs have been made with reasonable care and accuracy and must be considered only an approximate representation of subsurface conditions to be encountered at the particular location.
6. Disintegrated rock is defined as residual earth material with a penetration resistance between 60 blows per foot and refusal. Spoon refusal at the surface of rock, boulders, or obstructions is defined as a penetration resistance of 100 blows for 2 inches penetration or less (50 blows for 0 inches penetration). Auger refusal is taken as the depth at which further penetration of the auger is not possible without risking significant damage to the drilling equipment.



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		B-1
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/14/09
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 383.5	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/14/09

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)					
									20	40	60	80		
383.1			Asphalt = 5 inches											
382.6			Gravel Base = 6 inches											
	1		clayey SAND (SC), with rock fragments, moist, gray			X	8+28+16	14						
	2													
	3													
380.0			LEAN CLAY (CL), with rock fragments, moist, brown		20.9	X	6+7+11	17						
	4													
	5													
	6	C1				X								
	7						5+6+7	16						
	8													
	9													
	10					X	3+4+6	17						
373.5			Bottom of Boring at 10.0 ft											

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>	SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon
CAVED: <u>7.3</u> ft ELEV. <u>376.2</u>	

REMARKS:

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: B-2	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/13/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 387.9	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/13/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)								
									20	40	60	80					
387.3			Topsoil = 7 inches														
	1	C1	LEAN CLAY (CL), with sand, moist, light brown with rock fragments, red-brown below 3.5 ft.			X	3+3+3+4	24									
	2																
	3																
	4																
	5									3+4+7	16						
	6																
	7									6+7+6	14						
	8																
	9																
377.9	10				Bottom of Boring at 10.0 ft					4+5+5	16						

GROUND WATER LEVELS:				SAMPLE TYPES:			
ENCOUNTERED:	<u>None</u>			<input checked="" type="checkbox"/>	Split Spoon		
UPON COMPLETION:	<u>Dry</u>	CAVED:	<u>6.8</u> ft	ELEV.:	<u>381.1</u>		
1/14/2009	<u>Dry</u>	CAVED:	<u>6.8</u> ft	ELEV.:	<u>381.1</u>		

REMARKS:

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



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PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: B-3	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/13/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 387.6	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/13/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)								
									20	40	60	80					
387.0			Topsoil = 7 inches														
	1	C1	LEAN CLAY (CL), with sand and rock fragments, moist, red-brown			X	3+4+3+5	24									
	2																
	3																
	4																
	5									4+5+6	18						
	6																
	7									3+4+4	16						
	8																
	9																
377.6	10				Bottom of Boring at 10.0 ft					3+4+4	17						

GROUND WATER LEVELS:				SAMPLE TYPES:	
ENCOUNTERED:	<u>None</u>			<input checked="" type="checkbox"/>	Split Spoon
UPON COMPLETION:	<u>Dry</u>	CAVED:	<u>6.8</u> ft	ELEV.	<u>380.9</u>
1/14/2009	<u>Dry</u>	CAVED:	<u>6.8</u> ft	ELEV.	<u>380.9</u>

REMARKS:

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: B-4	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/13/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 388.8	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/13/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)					
									20	40	60	80		
388.5			Topsoil = 4 inches sandy LEAN CLAY (CL), moist, red-brown											
	1		with rock fragments below 1.5 ft.		22.1		3+3+4+6	24	●					
	2													
	3													
	4													
	5	C1					3+4+6	14	●					
	6													
	7						3+5+5	17	●					
	8													
	9													
	10		Bottom of Boring at 10.0 ft				4+5+5	13	●					

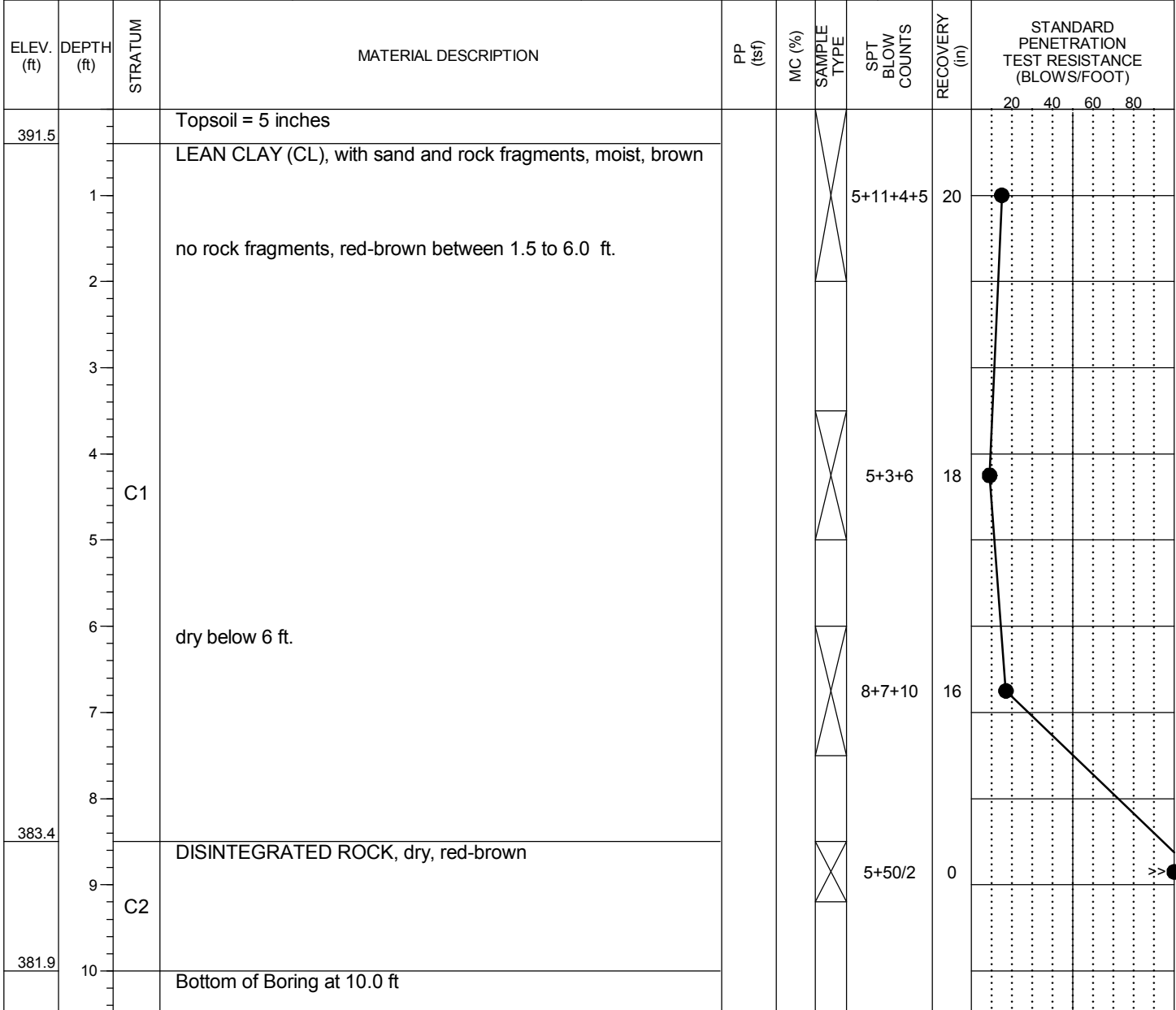
GROUND WATER LEVELS:				SAMPLE TYPES:			
ENCOUNTERED:	<u>None</u>			<input checked="" type="checkbox"/>	Split Spoon		
UPON COMPLETION:	<u>Dry</u>	CAVED:	<u>6.9</u> ft	ELEV.:	<u>381.9</u>		
1/14/2009	<u>Dry</u>	CAVED:	<u>6.9</u> ft	ELEV.:	<u>381.9</u>		

REMARKS:

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		B-5
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/13/09
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 391.9	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/13/09



GROUND WATER LEVELS:				SAMPLE TYPES:	
ENCOUNTERED:	<u>None</u>			<input checked="" type="checkbox"/>	Split Spoon
UPON COMPLETION:	<u>Dry</u>	CAVED:	<u>7.2</u> ft	ELEV.:	<u>384.7</u>
1/14/2009	<u>Dry</u>	CAVED:	<u>7.2</u> ft	ELEV.:	<u>384.7</u>

REMARKS:

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



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PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		B-6
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/14/09
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 398.8	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/14/09

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)						
									20	40	60	80			
398.4			Asphalt = 4.75 inches												
398.1			Gravel Base = 4 inches												
	1	A	lean clay FILL, with sand and gravel, moist, brown			X	5+5+7	16	●						
	2														
	3														
	4							X	5+8+7	17	●				
	5														
392.8	6	C1	LEAN CLAY (CL), moist, brown with sand and rock fragments below 8.5 ft.			X	6+7+7	18	●						
	7														
	8														
	9							X	5+5+5	14	●				
388.8	10		Bottom of Boring at 10.0 ft												

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>	SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon
CAVED: <u>7.6</u> ft ELEV. <u>391.2</u>	

REMARKS:

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: B-7	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/13/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 408.3	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/13/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)					
									20	40	60	80		
407.6			Topsoil = 8 inches											
	1		ELASTIC SILT (MH), with sand, moist, light brown		26.1	X	3+3+4+3	24	●					
	2													
	3													
	4													
	5	C1		3+4+3			17	●						
	6													
	7			3+3+4			15	●						
	8													
	9													
398.3	10			2+3+4			16	●						
			Bottom of Boring at 10.0 ft											

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>7.4</u> ft ELEV. <u>400.9</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
---	--	---	--	--	--

REMARKS: Offset 10 ft. due to power lines.

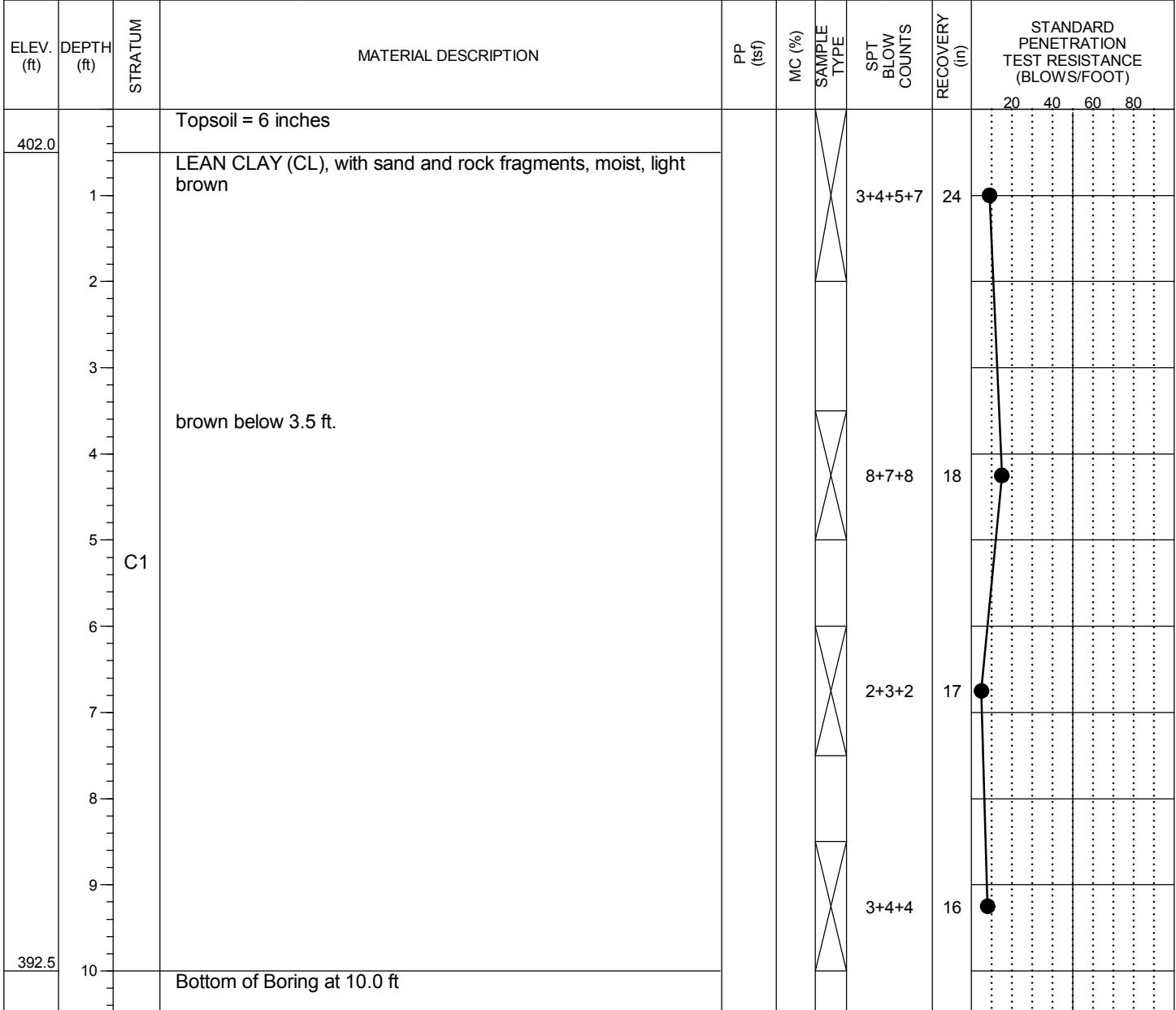
BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



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PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: B-8	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/13/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 402.5	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/13/09	



GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>	SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon
---	--

REMARKS: Offset 10 ft. due to power lines.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



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PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: B-9	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/13/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 396.2	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/13/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)							
									20	40	60	80				
395.6			Topsoil = 7 inches													
	1	C1	LEAN CLAY (CL), with sand and rock fragments, moist, brown light brown below 3.5 ft.			X	2+2+1+3	18								
	2															
	3															
	4									4+6+6	18					
	5															
	6															
	7									4+6+7	17					
	8															
	9															
386.2	10				Bottom of Boring at 10.0 ft			27.0		4+3+4	17					

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>6.8</u> ft ELEV. <u>389.4</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 10 ft. due to power lines.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: B-10	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/13/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 371.7	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/13/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)							
									20	40	60	80				
371.1			Topsoil = 7 inches													
	1	C1	LEAN CLAY (CL), with sand and rock fragments, moist, red-brown			X	3+4+7+8	24								
	2															
	3															
	4															
	5									5+6+8	17					
	6															
	7				brown below 6.5 ft.					3+4+4	18					
	8															
	9				wet below 8.5 ft.											
361.7	10				Bottom of Boring at 10.0 ft					2+3+2	18					

GROUND WATER LEVELS: ▽ ENCOUNTERED: <u>9.0</u> ft ELEV. <u>362.7</u> UPON COMPLETION: <u>Dry</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
CAVED: <u>7.3</u> ft ELEV. <u>364.4</u>			

REMARKS: Offset 5 ft. due to power lines.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



GeoConcepts Engineering, Inc.

19955 Highland Vista Dr., #170 (703) 726-8030
Ashburn, VA 20147 (703) 726-8032 fax

PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: B-11	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/13/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 392.3	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/13/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)							
									20	40	60	80				
391.6			Topsoil = 8 inches													
	1	C1	LEAN CLAY (CL), with sand, moist, brown with rock fragments below 1.5 ft. red-brown below 3.5 ft.			X	2+3+3+4	24								
	2															
	3															
	4															
	5									3+5+4	18					
	6															
	7									2+2+2	17					
	8															
	9															
382.3	10				Bottom of Boring at 10.0 ft					2+3+3	16					

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>8.1</u> ft ELEV. <u>384.2</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 15 ft. off roadway into grass.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-12	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/14/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 406.4	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/14/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)		
									20 40 60 80		
405.6	1		Asphalt = 10 inches								
404.9			Gravel Base = 8 inches								
	2	C1	LEAN CLAY (CL), moist, brown with rock fragments below 8.5 ft.			X	3+4+7	13			
	3										
	4										
	5										
	6										
	7								4+5+7	17	
	8										
	9										
396.4	10		Bottom of Boring at 10.0 ft				4+4+6	16			

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>7.4</u> ft ELEV. <u>399.0</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 20 ft. into roadway.

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



GeoConcepts Engineering, Inc.

19955 Highland Vista Dr., #170 (703) 726-8030
 Ashburn, VA 20147 (703) 726-8032 fax

PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: B-13	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/13/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 395.3	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/13/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)								
									20	40	60	80					
394.8			Topsoil = 6 inches														
	1	C1	LEAN CLAY (CL), with sand and rock fragments, moist, brown red-brown below 3.5 ft. brown below 8.5 ft.			X	3+5+3+2	18									
	2																
	3																
	4																
	5									2+3+3	14						
	6																
	7									3+3+4	17						
	8																
	9																
385.3	10				Bottom of Boring at 10.0 ft					2+3+4	18						

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>7.1</u> ft ELEV. <u>388.2</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 5 ft. north.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: B-14	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/13/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 394.0	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/13/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)						
									20	40	60	80			
393.5			Topsoil = 6 inches												
	1	C1	LEAN CLAY (CL), with sand, moist, brown with rock fragments, red-brown below 3.5 ft.		26.7		2+2+2+3	24							
	2														
	3														
	4														
	5								3+5+6	17					
	6														
	7								2+3+3	13					
	8														
	9								2+3+3	17					
384.0	10				Bottom of Boring at 10.0 ft										

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>7.7</u> ft ELEV. <u>386.3</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 20 ft. north due to power lines.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



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19955 Highland Vista Dr., #170 (703) 726-8030
Ashburn, VA 20147 (703) 726-8032 fax

PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: B-15	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/13/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 393.5	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/13/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)							
									20	40	60	80				
393.1			Topsoil = 5 inches													
	1	C1	LEAN CLAY (CL), with sand and rock fragments, moist, brown red-brown below 3.5 ft.			X	2+1+2+3	23								
	2															
	3															
	4															
	5									4+3+5	17					
	6															
	7									3+4+3	16					
	8															
	9															
	10									2+3+3	15					
383.5			Bottom of Boring at 10.0 ft													

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>7.2</u> ft ELEV. <u>386.3</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS:

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: B-16	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/13/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 389.3	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/13/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)												
									20	40	60	80									
388.8			Topsoil = 6 inches																		
	1	C1	LEAN CLAY (CL), with sand and rock fragments, moist, brown red-brown below 3.5 ft.			X	2+3+3+4	24													
	2																				
	3																				
	4																				
	5									4+5+6	16										
	6																				
	7							22.7		3+3+4	15										
	8																				
	9																				
379.3	10				Bottom of Boring at 10.0 ft					2+3+3	17										

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>7.2</u> ft ELEV. <u>382.1</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 10 ft. west.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-17	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/14/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 388.4	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/14/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)					
									20	40	60	80		
387.7			Asphalt = 8 inches											
387.0	1		Gravel Base = 9 inches											
	2	A	lean clay FILL, with gravel, moist, brown				8+11+9	12						
	3													
384.9	4		LEAN CLAY (CL), with sand and rock fragments, moist, brown											
	5													
	6													
	7	C1												
	8													
	9													
378.4	10		Bottom of Boring at 10.0 ft											

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>7.8</u> ft ELEV. <u>380.7</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS:

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-18	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/14/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 390.6	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/14/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)					
									20	40	60	80		
390.4			Topsoil = 3 inches sandy LEAN CLAY (CL), moist, brown											
	1				22.5		2+3+3+4	24						
	2													
	3													
	4		with rock fragments below 3.5 ft.											
	5	C1					3+3+4	16						
	6													
	7						4+3+3	14						
	8													
	9													
	10		Bottom of Boring at 10.0 ft				5+6+5	13						
380.6														

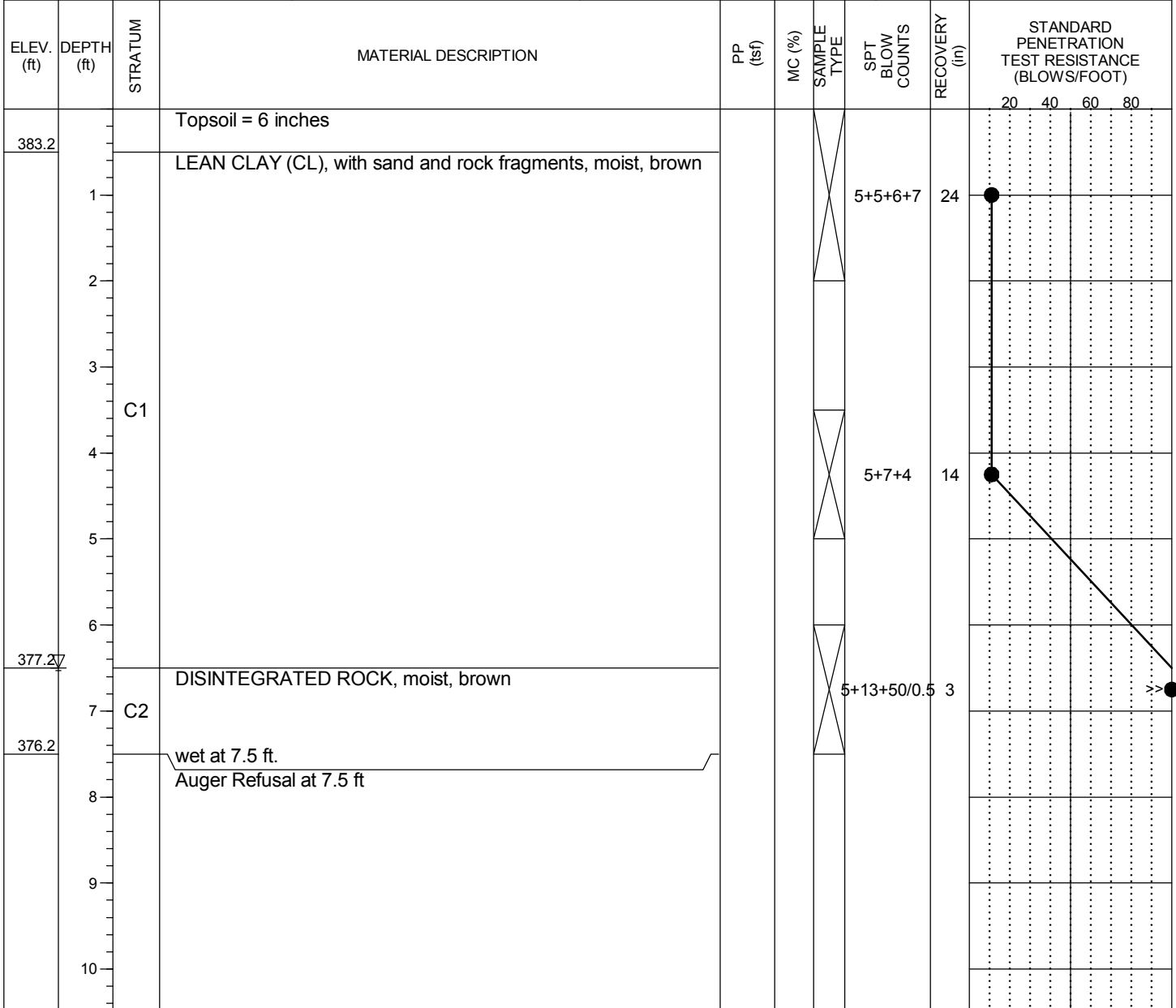
GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>	CAVED: <u>5.8</u> ft ELEV. <u>384.8</u>	SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon
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REMARKS: Offset 10 ft. west.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-19	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/14/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 383.7	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/14/09	



GROUND WATER LEVELS: <input checked="" type="checkbox"/> ENCOUNTERED: <u>6.5</u> ft ELEV. <u>377.2</u> UPON COMPLETION: <u>Dry</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
CAVED: <u>4.7</u> ft ELEV. <u>379.0</u>			

REMARKS: Offset 5 ft. east.

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



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19955 Highland Vista Dr., #170 (703) 726-8030
Ashburn, VA 20147 (703) 726-8032 fax

PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-20	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/14/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 383.6	DRILLING METHOD: 2.25" I.D. HSA		DATE COMPLETED: 1/14/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)							
									20	40	60	80				
383.1			Topsoil = 7 inches													
	1	C1	sandy LEAN CLAY (CL), moist, brown with rock fragments, brown below 3.5 ft.				3+3+3+3	18								
	2															
	3															
	4							20.5		4+5+4	16					
	5															
	6															
	7									3+3+4	17					
	8															
	9															
	10									3+3+3	18					
373.6			Bottom of Boring at 10.0 ft													

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>	SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon
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REMARKS: Offset 10 ft. west.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-21	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/14/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 381.4	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/14/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)							
									20	40	60	80				
380.9			Topsoil = 6 inches													
	1	C1	LEAN CLAY (CL), with rock fragments, moist, brown			X	3+3+4+5	24								
	2															
	3															
	4															
	5									3+3+4	16					
	6															
	7									2+3+3	13					
	8															
	9															
371.4	10				Bottom of Boring at 10.0 ft					3+5+5	10					

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>5.7</u> ft ELEV. <u>375.7</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 5 ft. east.

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-22	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/14/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 380.0	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/14/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)							
									20	40	60	80				
379.3			Topsoil = 8 inches													
	1	C1	sandy LEAN CLAY (CL), with rock fragments, moist, brown		20.6	X	2+2+3+2	20								
	2															
	3															
	4															
	5									4+5+5	18					
	6															
	7									3+4+6	14					
	8															
	9									5+9+5	9					
370.0	10				Bottom of Boring at 10.0 ft											

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>5.8</u> ft ELEV. <u>374.3</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 10 ft. west.

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-23	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/14/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 376.5	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/14/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)									
									20	40	60	80						
375.9			Asphalt = 7.5 inches															
	1		Gravel Base = 8.5 inches															
375.2			LEAN CLAY (CL), with sand, wet, brown			X	6+7+6	14										
	2																	
	3																	
	4																	
	5						2+3+2	0										
	6	C1																
	7		with rock fragments, brown below 6 ft.															
	8																	
	9																	
	10						3+3+4	18										
366.5			Bottom of Boring at 10.0 ft															
							3+3+5	16										

GROUND WATER LEVELS: ▽ ENCOUNTERED: <u>1.5</u> ft ELEV. <u>375.0</u> UPON COMPLETION: <u>Dry</u>	SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon
CAVED: <u>4.9</u> ft ELEV. <u>371.6</u>	

REMARKS:

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



GeoConcepts Engineering, Inc.

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Ashburn, VA 20147 (703) 726-8032 fax

PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-24	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/15/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 376.0	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/15/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)
									20 40 60 80
375.6			Topsoil = 5 inches						
	1	C1	LEAN CLAY (CL), with rock fragments, moist, brown				3+3+3+4	24	
	2								
	3								
	4								
	5								
	6								
370.0			sandy LEAN CLAY (CL), moist, brown		26.1		4+5+4	18	
	7								
	8								
	9								
	10		Bottom of Boring at 10.0 ft				3+4+4	15	
366.0									

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>	CAVED: <u>5.0</u> ft ELEV. <u>371.0</u>	SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon
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REMARKS: Offset 10 ft. south to avoid driveway.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-25	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/15/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 374.9	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/15/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)							
									20	40	60	80				
374.4			Topsoil = 6 inches													
	1	C1	LEAN CLAY (CL), with sand and rock fragments, moist, brown			X	2+2+2+3	24								
	2															
	3															
	4															
	5									4+5+9	16					
	6															
	7									4+6+8	17					
	8															
	9															
364.9	10				Bottom of Boring at 10.0 ft					5+5+6	18					

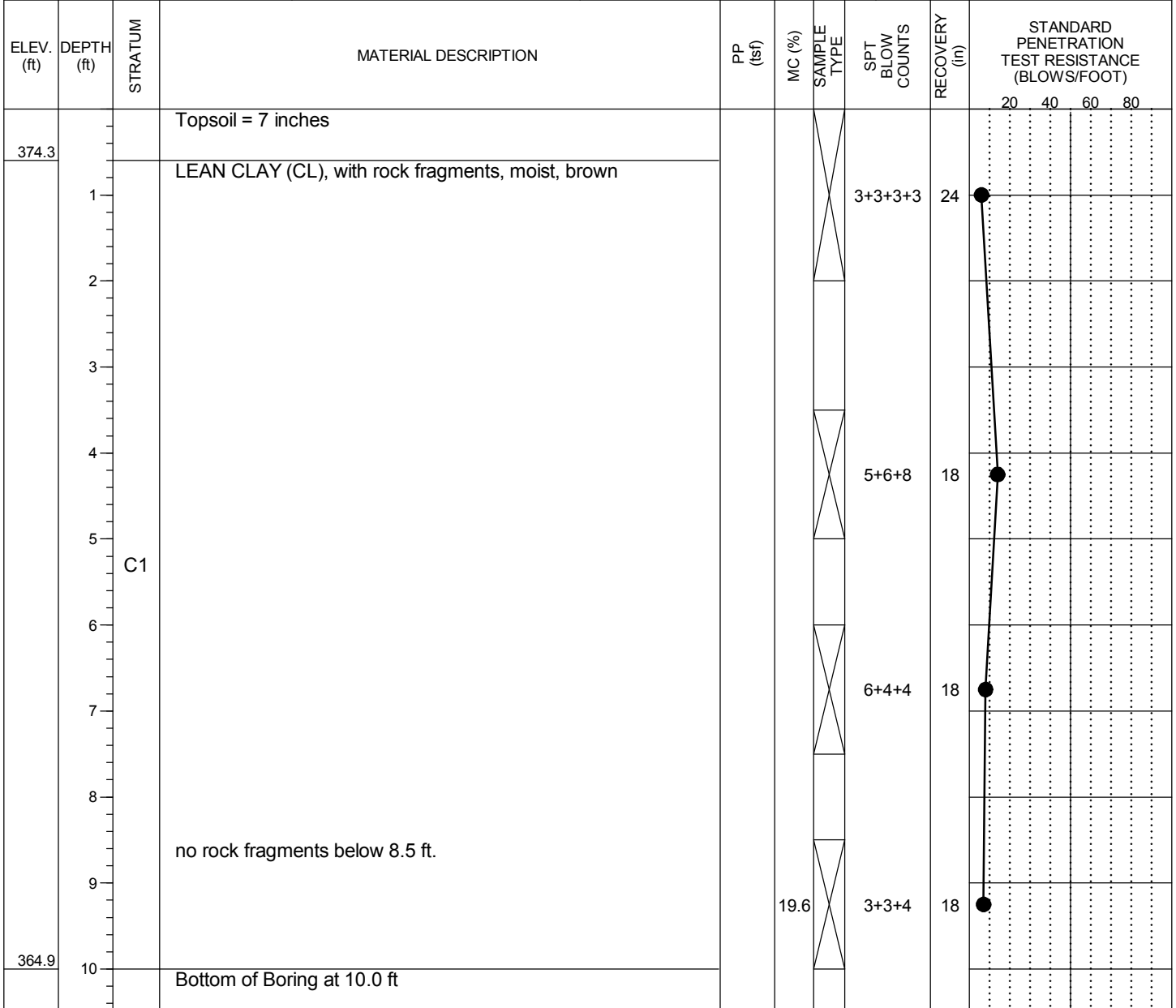
GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>5.2</u> ft ELEV. <u>369.7</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 5 ft. north.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-26	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/15/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 374.9	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/15/09	



GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>5.2</u> ft ELEV. <u>369.7</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 10 ft. west due to power lines.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



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PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-27	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/15/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 373.2	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/15/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)							
									20	40	60	80				
372.7			Topsoil = 6 inches													
	1	C1	LEAN CLAY (CL), moist, brown with rock fragments below 3.5 ft.			X	3+2+3+3	24	●							
	2															
	3															
	4															
	5									3+4+4	17	●				
	6															
	7									2+3+3	16	●				
	8															
	9															
	10									2+3+4	13	●				
363.2			Bottom of Boring at 10.0 ft													

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>4.9</u> ft ELEV. <u>368.3</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS:

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-28	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/14/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 373.3	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/14/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)					
									20	40	60	80		
372.3	1		Asphalt = 12.5 inches											
371.8			Gravel Base = 5.5 inches											
	2	A	lean clay FILL, with gravel, moist, dark brown		20.6		13+5+4	16						
	3													
369.8	4		sandy LEAN CLAY (CL), with rock fragments, moist, brown				5+8+9	17						
	5													
	6													
	7	C1					8+9+12	18						
	8													
	9													
363.3	10		Bottom of Boring at 10.0 ft				7+13+15	15						

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>7.6</u> ft ELEV. <u>365.7</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS:

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-29	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/15/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 386.1	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/15/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)								
									20	40	60	80					
385.4			Topsoil = 8 inches														
	1	C1	LEAN CLAY (CL), with rock fragments, moist, brown			X	2+3+2+3	24									
	2																
	3																
	4																
	5									3+3+5	16						
	6																
	7									2+2+2	17						
	8																
	9				wet below 8.5 ft.												
376.1	10				Bottom of Boring at 10.0 ft					23+5+5	15						

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>4.5</u> ft ELEV. <u>381.6</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 5 ft. east towards the sod farm.

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-30	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/15/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 374.1	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/15/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)								
									20	40	60	80					
373.5			Topsoil = 8 inches														
	1	C1	LEAN CLAY (CL), moist, brown with rock fragments below 3.5 ft.			X	2+3+4+5	24	●								
	2																
	3																
	4									2+3+4	16	●					
	5																
	6																
	7									3+5+5	16	●					
	8																
	9																
364.1	10				Bottom of Boring at 10.0 ft					2+3+3	15	●					

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>5.2</u> ft ELEV. <u>368.9</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 10 ft. west due to power lines.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



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Ashburn, VA 20147 (703) 726-8032 fax

PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-31	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/15/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 365.2	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/15/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)
									20 40 60 80
364.9			Topsoil = 4 inches						
	1		LEAN CLAY (CL), with rock fragments, moist, brown				5+4+4+3	22	
	2								
	3								
361.7			clayey GRAVEL (GC), with sand, moist, brown		11.4		5+8+12	14	
	4								
	5	D1							
	6								
	7						4+6+7	16	
	8								
	9								
355.2	10		Bottom of Boring at 10.0 ft				4+4+6	17	

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>5.1</u> ft ELEV. <u>360.1</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 10 ft. west due to power lines.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



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PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-32	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/15/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 356.9	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/15/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)
356.3			Gravel Base = 7 inches						20 40 60 80
	1		LEAN CLAY (CL), with rock fragments, moist, brown						
	2			3+5+9	16				
	3								
	4								
	5			5+5+6	18				
	6								
	7			2+4+4	17				
	8								
	9								
	10			3+3+4	16				
346.9			Bottom of Boring at 10.0 ft						

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>5.3</u> ft ELEV. <u>351.6</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS:

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



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 Ashburn, VA 20147 (703) 726-8032 fax

PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-33	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/15/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 351.3	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/15/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)									
									20	40	60	80						
350.8			Topsoil = 6 inches															
	1	D1	clayey GRAVEL (GC), moist, brown			X	5+13+8+12	22										
	2																	
	3																	
	4																	
	5				14.1		2+3+9	7										
345.3	6	D2	DISINTEGRATED ROCK, moist, brown			X	6+32+50/4	16										
	7																	
	8																	
	9																	
342.5	9		Bottom of Boring at 8.8 ft			X	50/3	1										
	10																	

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>4.8</u> ft ELEV. <u>346.5</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 8 ft. east due to power lines.

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-34	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/14/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 347.4	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/14/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)								
									20	40	60	80					
346.2	1		Asphalt = 14 inches														
345.6	2		Gravel Base = 7 inches				5+3+7	12									
	2		LEAN CLAY (CL), moist, brown														
	3																
	4																
	5						5+7+8	18									
	6	D1															
	7		with sand and rock fragments below 6 ft.														
	8																
	9																
337.4	10		Bottom of Boring at 10.0 ft				12+15+11	18									

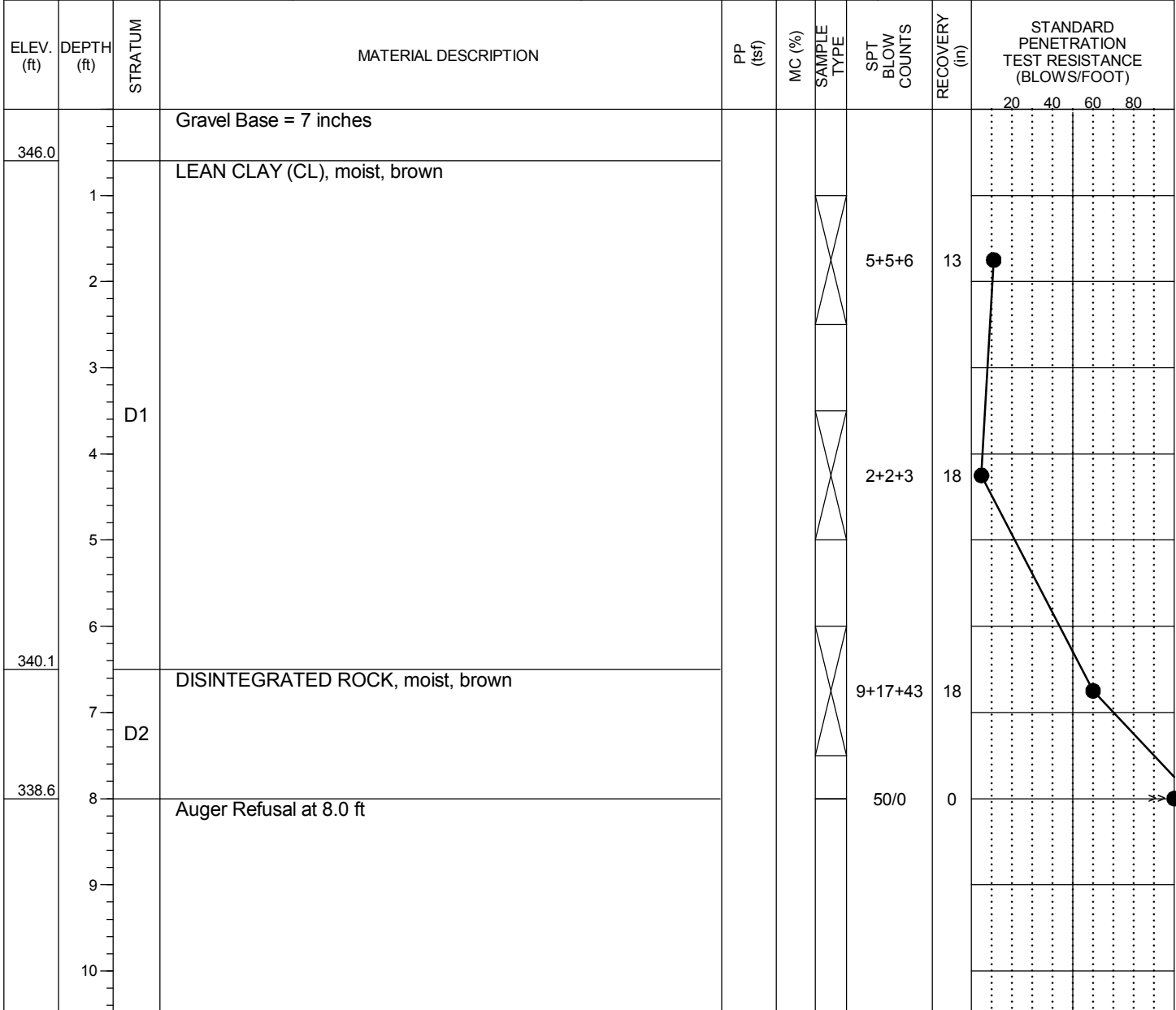
GROUND WATER LEVELS:		SAMPLE TYPES:	
ENCOUNTERED: <u>None</u>		<input checked="" type="checkbox"/> Split Spoon	
UPON COMPLETION: <u>Dry</u>	CAVED: <u>7.6</u> ft	ELEV. <u>339.8</u>	

REMARKS: Offset west into roadway due to power lines.

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-35	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/14/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 346.6	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/14/09	



GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>6.4</u> ft ELEV. <u>340.2</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 16 ft. west due to steep slope in roadway shoulder.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-36	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/14/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 341.5	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/14/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)
									20 40 60 80
340.7			Gravel Base = 10 inches						
	1		LEAN CLAY (CL), with sand and rock fragments, moist, brown						
	2			8+9+7	18				
	3								
	4								
	5			5+7+8	17				
	6								
	7			20.9	18				
	8								
	9								
	10			3+4+5	18				
331.5			Bottom of Boring at 10.0 ft						

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>7.7</u> ft ELEV. <u>333.8</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 7 ft. west due to power lines.

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



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 Ashburn, VA 20147 (703) 726-8032 fax

PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-37	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/14/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 341.3	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/14/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)					
									20	40	60	80		
340.6			Gravel Base = 8 inches											
	1	D1	LEAN CLAY (CL), moist, brown			X	5+7+8	18						
338.3	3							50/0	0					
	4	D2	DISINTEGRATED ROCK, moist, brown			X	8+50/5	11						
336.3	5													
	6		Auger Refusal at 5.0 ft											
	7													
	8													
	9													
	10													

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>3.9</u> ft ELEV. <u>337.4</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 4 ft. west due to steep slope.

BOREHOLE/TEST PIT 27051, VIRTS CORNER.GPJ 3/27/09



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PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-38	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/15/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 334.5	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/15/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)							
									20	40	60	80				
333.9			Topsoil = 7 inches													
	1	D1	LEAN CLAY (CL), with sand, moist, brown		15.0		4+4+5+9	24								
	2															
	3															
	4															
	5															
	6	D2	DISINTEGRATED ROCK, moist, brown				9+12+22	17								
328.5	7															
	8															
	9															
	10															
326.0			Bottom of Boring at 8.5 ft				50/0.5	0.5								

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>	CAVED: <u>5.0</u> ft ELEV. <u>329.5</u>	SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon
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REMARKS:

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-39	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/15/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 327.4	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/15/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)
327.1			Gravel Base = 4 inches						20 40 60 80
	1		LEAN CLAY (CL), moist, brown			X	4+4+4+5	22	
	2								
	3								
	4		wet below 3.5 ft.			X	5+13+6	12	
	5	D1							
	6		with rock fragments below 6 ft.			X			
	7					X	2+3+3	16	
	8								
	9					X			
	10				19.7	X	3+2+4	17	
317.4			Bottom of Boring at 10.0 ft						

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>	CAVED: <u>6.1</u> ft ELEV. <u>321.3</u>	SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon
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REMARKS: Offset east onto shoulder of roadway.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



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Ashburn, VA 20147 (703) 726-8032 fax

PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-40	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/15/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 321.2	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/15/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)						
									20	40	60	80			
320.6			Topsoil = 7 inches												
	1	D1	LEAN CLAY (CL), moist, brown with rock fragments between 6 ft. to 7.5 ft.				2+3+4+4	24	●						
	2														
	3														
	4														
	5								3+3+4	18	●				
	6														
	7								3+4+6	17	●				
	8														
	9														
311.2	10				Bottom of Boring at 10.0 ft				5+5+6	17	●				

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>5.5</u> ft ELEV. <u>315.7</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
---	--	---	--	--	--

REMARKS: Offset 5 ft. east.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: T. Nguyen		BORING NUMBER: B-41	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/15/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 320.2	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/15/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)							
									20	40	60	80				
319.7			Topsoil = 6 inches													
	1	D1	LEAN CLAY (CL), moist, brown with rock fragments below 3.5 ft.			X	3+3+3+4	24								
	2															
	3															
	4															
	5							16.3		4+4+7	18					
	6															
	7									3+3+3	0					
	8															
	9															
	10									3+3+3	16					
310.2			Bottom of Boring at 10.0 ft													

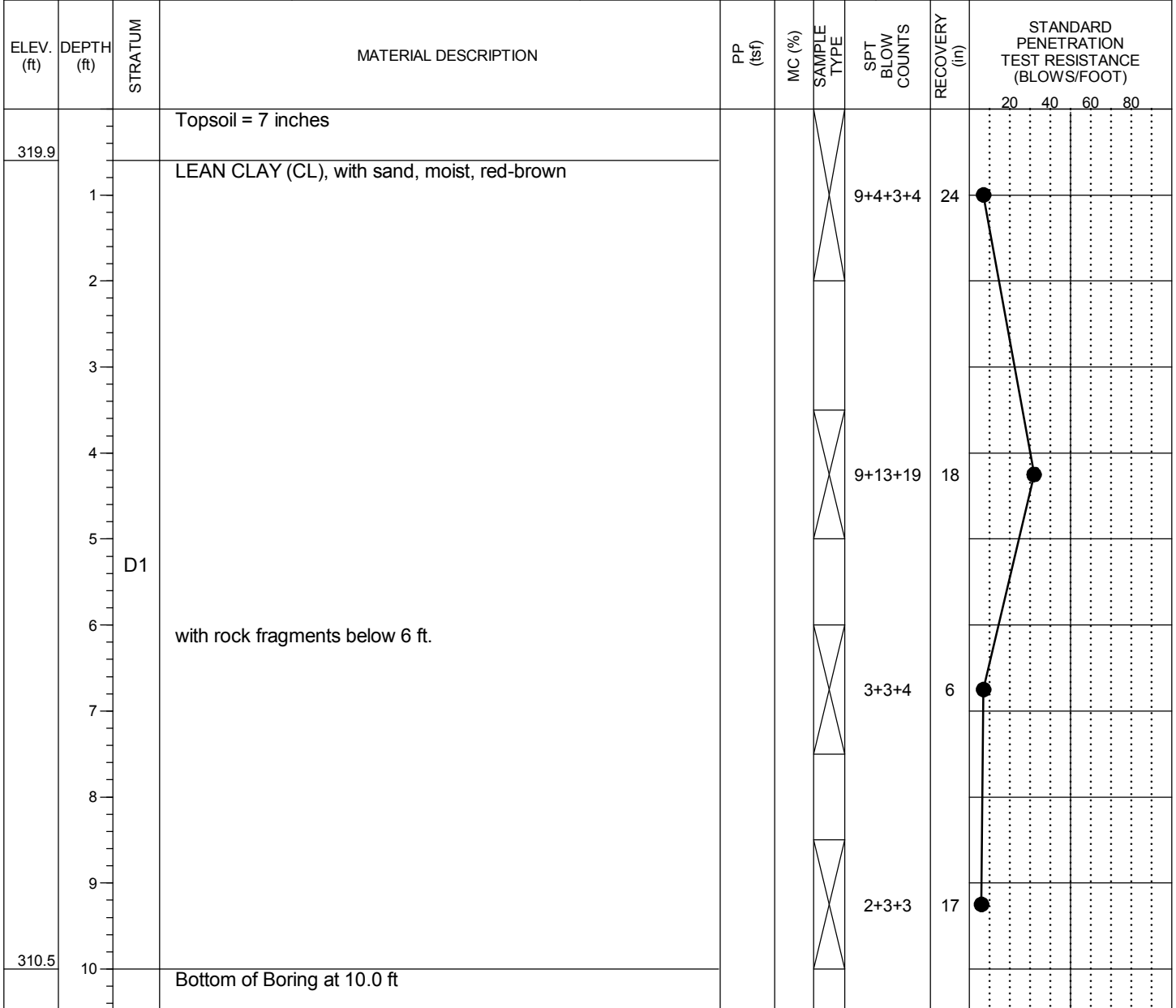
GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>5.1</u> ft ELEV. <u>315.1</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 5 ft. east.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: B-42	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/15/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 320.5	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/15/09	



GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>4.4</u> ft ELEV. <u>316.1</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS: Offset 21 ft. east away from King Street, power lines, and gas lines.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



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PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: B-43	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/22/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 312.7	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/22/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)					
									20	40	60	80		
312.0			Topsoil = 9 inches											
	1		LEAN CLAY (CL), with sand, moist, brown		21.1		3+3+4+4	24						
	2													
	3													
	4		wet, gray and brown below 3.5 ft.											
	5	B					1+2+2	18						
	6													
	7													
	8													
	9													
	10						2+3+3	0						
302.7			Bottom of Boring at 10.0 ft				3+3+3	4						

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
UPON COMPLETION: <u>4.2</u> ft ELEV. <u>308.5</u> CAVED: <u>5.0</u> ft ELEV. <u>307.7</u>			

REMARKS:

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



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PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: C. McIntyre		BORING NUMBER: B-44
LOCATION: Masons Lane & Gleedsville Road, Leesburg, VA		DRILLING CONTRACTOR: Connelly and Associates, Inc.		
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Leatherman	DATE STARTED: 11/22/10	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 373.0 ±	DRILLING METHOD: 2.25" I.D. HSA	DATE COMPLETED: 11/22/10	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)			
								20	40	60	80
372.8			Topsoil = 3 inches sandy lean clay FILL, with gravel, moist, brown		X	3+6+6+6	17				
	5	A			X	5+7+7	10				
					X	3+4+5	18				
364.5			sandy LEAN CLAY (CL), moist, tan and brown		X	5+8+11	18				
	10				X						
					X						
	15	C1	brown below 13.5 ft.	36.2	X	4+3+6	18				
					X						
353.0	20		Bottom of Boring at 20.0 ft		X	4+5+7	18				

GROUND WATER LEVELS: ∇ ENCOUNTERED: <u>18.0</u> ft ELEV. <u>355.0</u> UPON COMPLETION: <u>Dry</u>	SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon
CAVED: <u>14.5</u> ft ELEV. <u>358.5</u>	

REMARKS:

BOREHOLE/TEST PIT LOGS.GPJ GEOCONCEPTS.GDT 12/21/10



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 Ashburn, VA 20147 703-726-8032 fax

PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: C. McIntyre		BORING NUMBER: B-45
LOCATION: Masons Lane & Gleedsville Road, Leesburg, VA		DRILLING CONTRACTOR: Connelly and Associates, Inc.		
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Leatherman		DATE STARTED: 11/22/10
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 370.0 ±	DRILLING METHOD: 2.25" I.D. HSA		DATE COMPLETED: 11/22/10

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)			
								20	40	60	80
369.8		A	Topsoil = 3 inches sandy lean clay FILL, with gravel, moist, brown	10.8	X	4+5+8+10	16				
367.5			lean clay FILL, with sand, moist, brown			3+3+4	18				
	5					2+2+3	18				
361.5		C1	LEAN CLAY (CL), with sand, moist, brown		X	8+9+13	18				
	10		with gravel below 13.5 ft.			5+7+13	18				
355.0	15		Bottom of Boring at 15.0 ft								

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>	CAVED: <u>8.8</u> ft ELEV. <u>361.2</u>	SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon
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REMARKS:

BOREHOLE/TEST PIT LOGS.GPJ GEOCONCEPTS.GDT 12/21/10



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PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: C. McIntyre		BORING NUMBER: B-46	
LOCATION: Masons Lane & Gleedsville Road, Leesburg, VA		DRILLING CONTRACTOR: Connelly and Associates, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Leatherman		DATE STARTED: 11/22/10	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 365.0 ±	DRILLING METHOD: 2.25" I.D. HSA		DATE COMPLETED: 11/22/10	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)			
								20	40	60	80
364.7		A	Topsoil = 4 inches sandy lean clay FILL, with gravel, moist, brown			3+3+4+11	12				
			20+24+26	8							
360.0	5	C1	sandy LEAN CLAY (CL), with gravel, moist, brown	17.1		5+6+10	18				
357.5			Auger Refusal at 7.5 ft			50/0	0				>>

GROUND WATER LEVELS: ENCOUNTERED: <u>None</u> UPON COMPLETION: <u>Dry</u>		CAVED: <u>1.5</u> ft ELEV. <u>363.5</u>		SAMPLE TYPES: <input checked="" type="checkbox"/> Split Spoon	
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REMARKS:

BOREHOLE/TEST PIT LOGS.GPJ GEOCONCEPTS.GDT 12/21/10



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: SWM-1	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/13/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 395.4	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/13/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)					
									20	40	60	80		
394.8			Topsoil = 7 inches											
	1		clayey SAND (SC), with rock fragments, moist, brown				2+2+3+5	24						
	2													
	3													
391.9			LEAN CLAY (CL), with sand and rock fragments, moist, red-brown				2+4+6	17						
	4													
	5	C1												
	6													
	7						4+6+7	15						
	8													
	9													
385.4			Bottom of Boring at 10.0 ft				4+5+7	18						
	10													

GROUND WATER LEVELS:				SAMPLE TYPES:			
ENCOUNTERED:	<u>None</u>			<input checked="" type="checkbox"/>	Split Spoon		
UPON COMPLETION:	<u>Dry</u>	CAVED:	<u>7.6</u> ft	ELEV.:	<u>387.8</u>		
1/14/2009	<u>Dry</u>	CAVED:	<u>7.6</u> ft	ELEV.:	<u>387.8</u>		

REMARKS: Offset 20 ft. south.

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: SWM-2	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/13/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 392.6	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/13/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)					
									20	40	60	80		
392.1			Topsoil = 6 inches											
	1	C1	clayey GRAVEL (GC), with sand and organics, moist, brown				3+4+3+5	22						
	2		light brown below 1.5 ft.											
	3													
	4			no organics, red-brown below 3.5 ft.										
	5						3+5+6	15						
	6													
	7				11.4		3+5+5	16						
	8													
384.17	9	C2	DISINTEGRATED ROCK, wet, red-brown											
	10							4+50/5.5	2					
382.6	10		Bottom of Boring at 9.5 ft											

GROUND WATER LEVELS:				SAMPLE TYPES:			
ENCOUNTERED:	8.5	ft	ELEV. 384.1	<input checked="" type="checkbox"/>	Split Spoon		
UPON COMPLETION:	Dry						
1/14/2009	Dry						
				CAVED:	7.8	ft	ELEV. 384.8
				CAVED:	7.8	ft	ELEV. 384.8

REMARKS:

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



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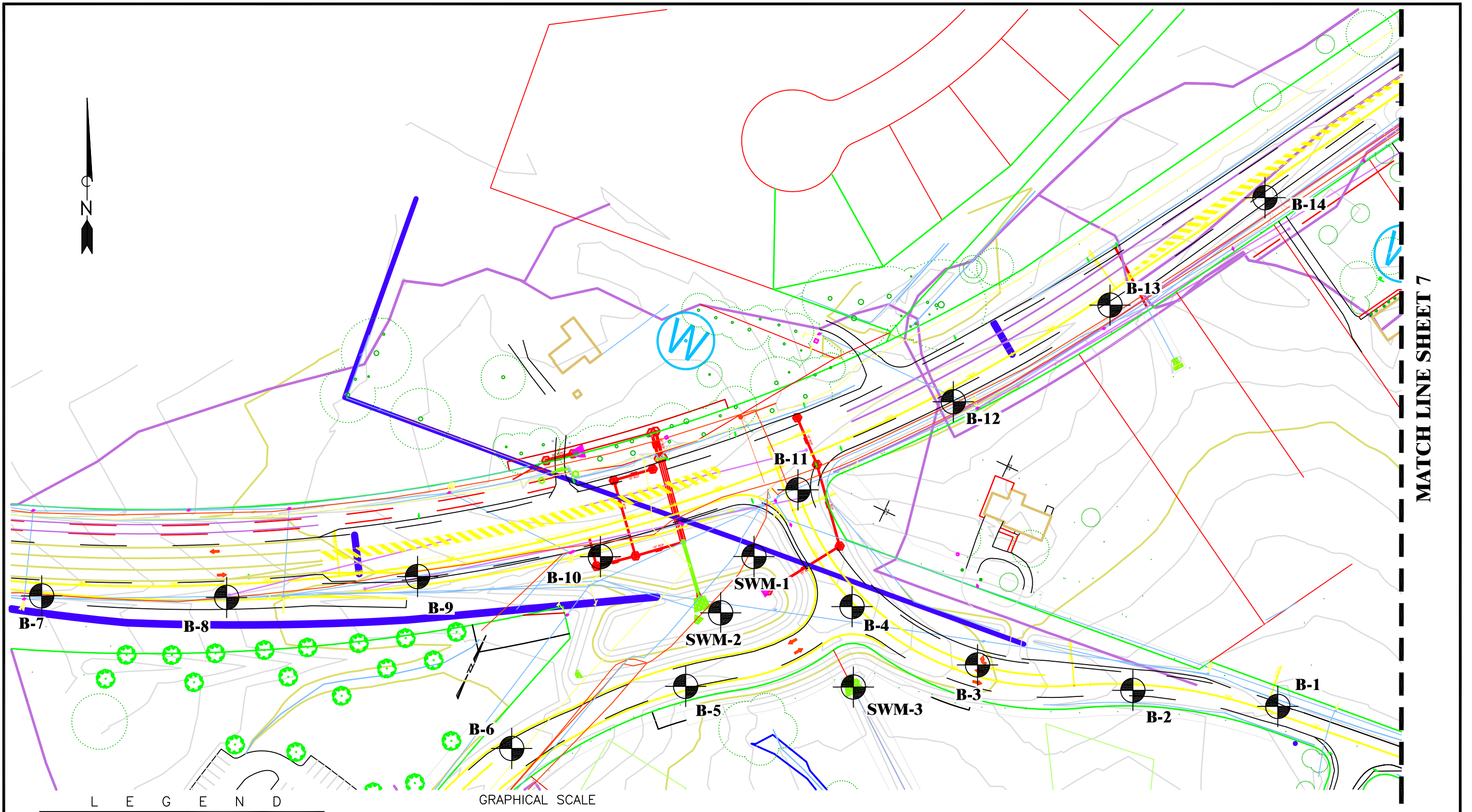
PROJECT: Virt's Corner Intersection and South King St. Widening		LOGGED BY: E. Miquelon		BORING NUMBER: SWM-3	
LOCATION: Masons Ln. and Gleedsville Rd., Leesburg, VA		DRILLING CONTRACTOR: Free State Drilling, Inc.		SHEET 1 OF 1	
OWNER/CLIENT: Paciulli Simmons and Associates, Ltd.		DRILLER: J. Scribellito		DATE STARTED: 1/22/09	
PROJECT NUMBER: 27051	GROUND SURFACE ELEVATION (ft): 385.5	DRILLING METHOD: 3.25" I.D. HSA		DATE COMPLETED: 1/22/09	

ELEV. (ft)	DEPTH (ft)	STRATUM	MATERIAL DESCRIPTION	PP (tsf)	MC (%)	SAMPLE TYPE	SPT BLOW COUNTS	RECOVERY (in)	STANDARD PENETRATION TEST RESISTANCE (BLOWS/FOOT)							
									20	40	60	80				
385.1			Topsoil = 5 inches													
	1	C1	LEAN CLAY (CL), moist, light brown with sand below 1.5 ft. with rock fragments, red-brown below 3.5 ft. wet below 8.5 ft.			X	3+2+3+4	24								
	2							4+6+7	18							
	3															
	4															
	5															
	6															
	7									3+3+4	18					
	8															
	9															
	10									3+3+4	17					
375.5			Bottom of Boring at 10.0 ft													

GROUND WATER LEVELS:				SAMPLE TYPES:			
ENCOUNTERED:	<u>None</u>			<input checked="" type="checkbox"/>	Split Spoon		
UPON COMPLETION:	<u>Dry</u>	CAVED:	<u>4.6</u> ft	ELEV.:	<u>380.9</u>		
1/23/2009	<u>Dry</u>	CAVED:	<u>4.6</u> ft	ELEV.:	<u>380.9</u>		

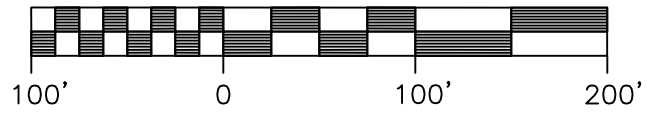
REMARKS:

BOREHOLE/TEST PIT 27051, VIRT'S CORNER.GPJ 3/27/09



MATCH LINE SHEET 7

 APPROXIMATE BORING LOCATION



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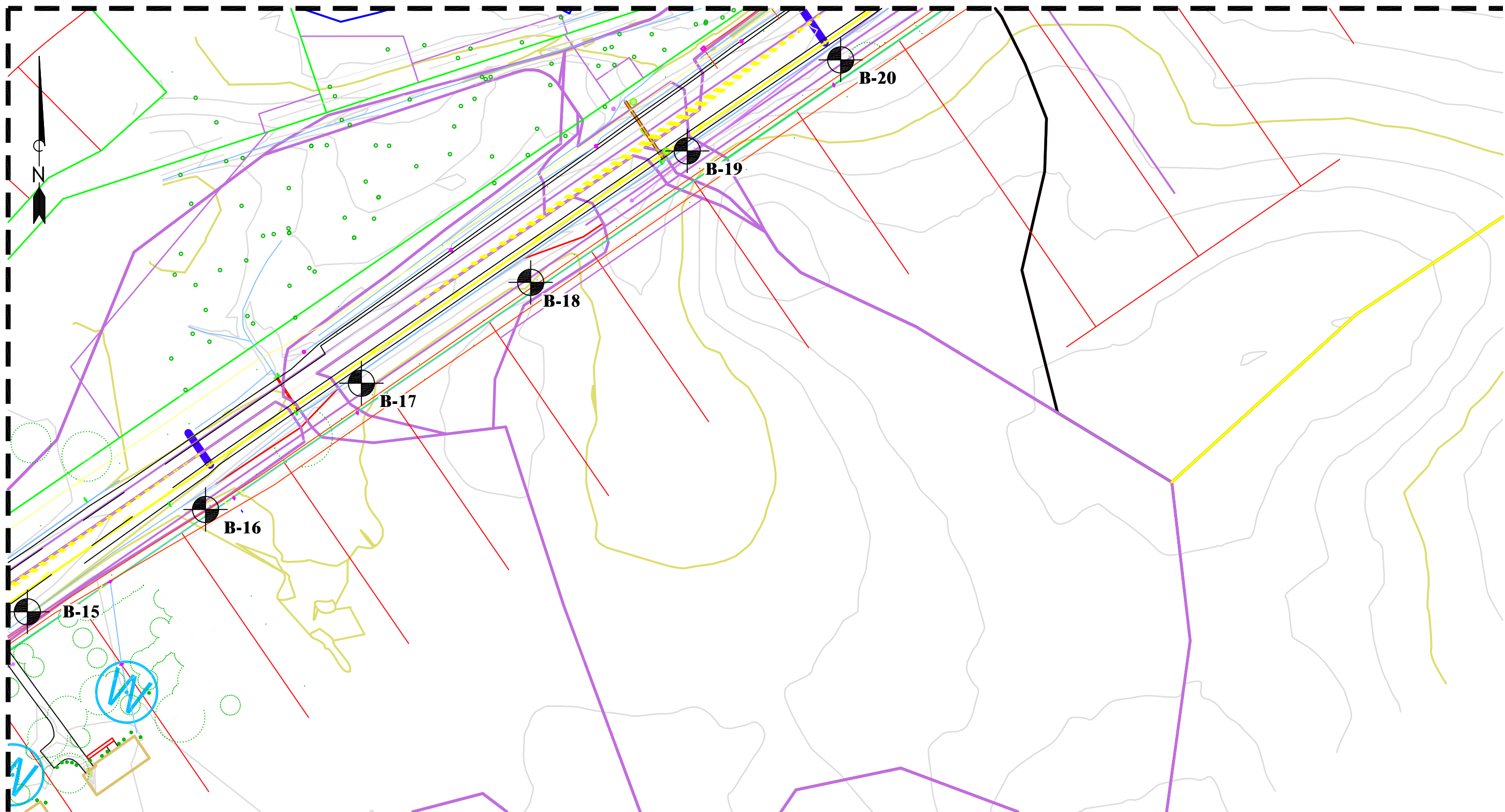
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VIRTS CORNER INTERSECTION SOUTH KING STREET, LEESBURG, VIRGINIA		
BORING LOCATION PLAN	Scale: AS SHOWN	Fig. 6
Date: DEC 2010	Checked By: P.E.B.	Project No.: 27051

MATCH LINE SHEET 8

MATCH LINE SHEET 8

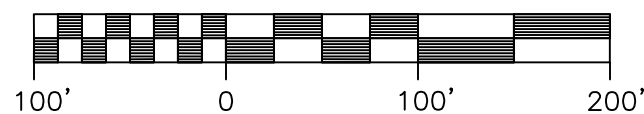
MATCH LINE SHEET 6



L E G E N D


 APPROXIMATE BORING LOCATION

GRAPHICAL SCALE



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VIRTS CORNER INTERSECTION
 SOUTH KING STREET, LEESBURG, VIRGINIA

BORING LOCATION PLAN

Scale:
 AS SHOWN

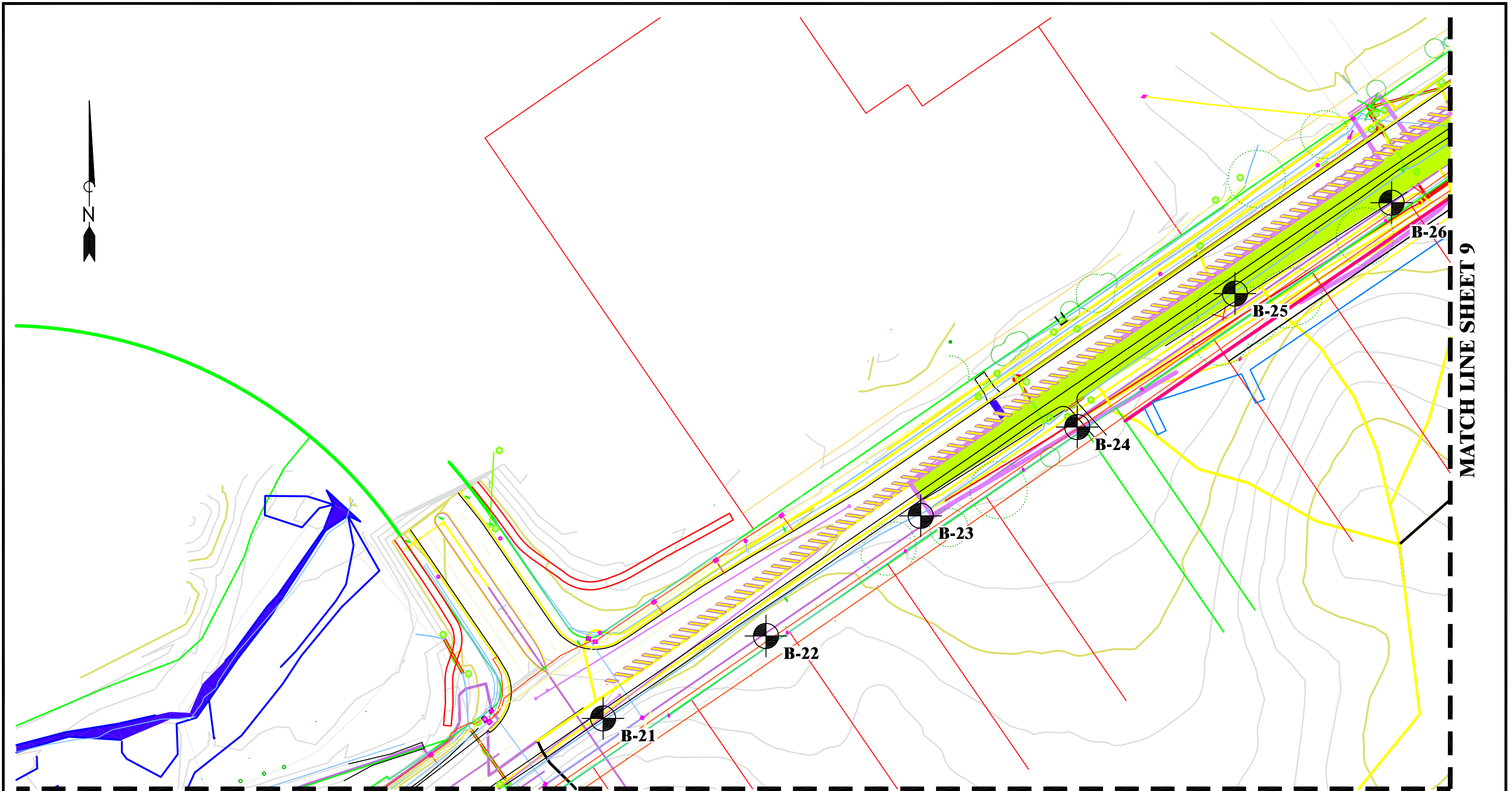
Fig.

Date:
 DEC 2010

Checked By:
 P.E.B.

Project No.:
 27051

7



MATCH LINE SHEET 7

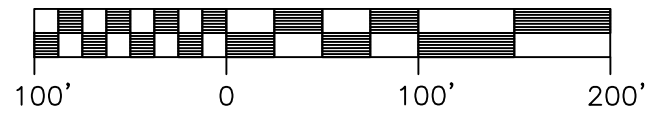
MATCH LINE SHEET 7

MATCH LINE SHEET 9

L E G E N D

APPROXIMATE BORING LOCATION

GRAPHICAL SCALE



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VIRTS CORNER INTERSECTION
SOUTH KING STREET, LEESBURG, VIRGINIA

BORING LOCATION PLAN

Scale:
AS SHOWN

Fig.

Date:
DEC 2010

Checked By:
P.E.B.

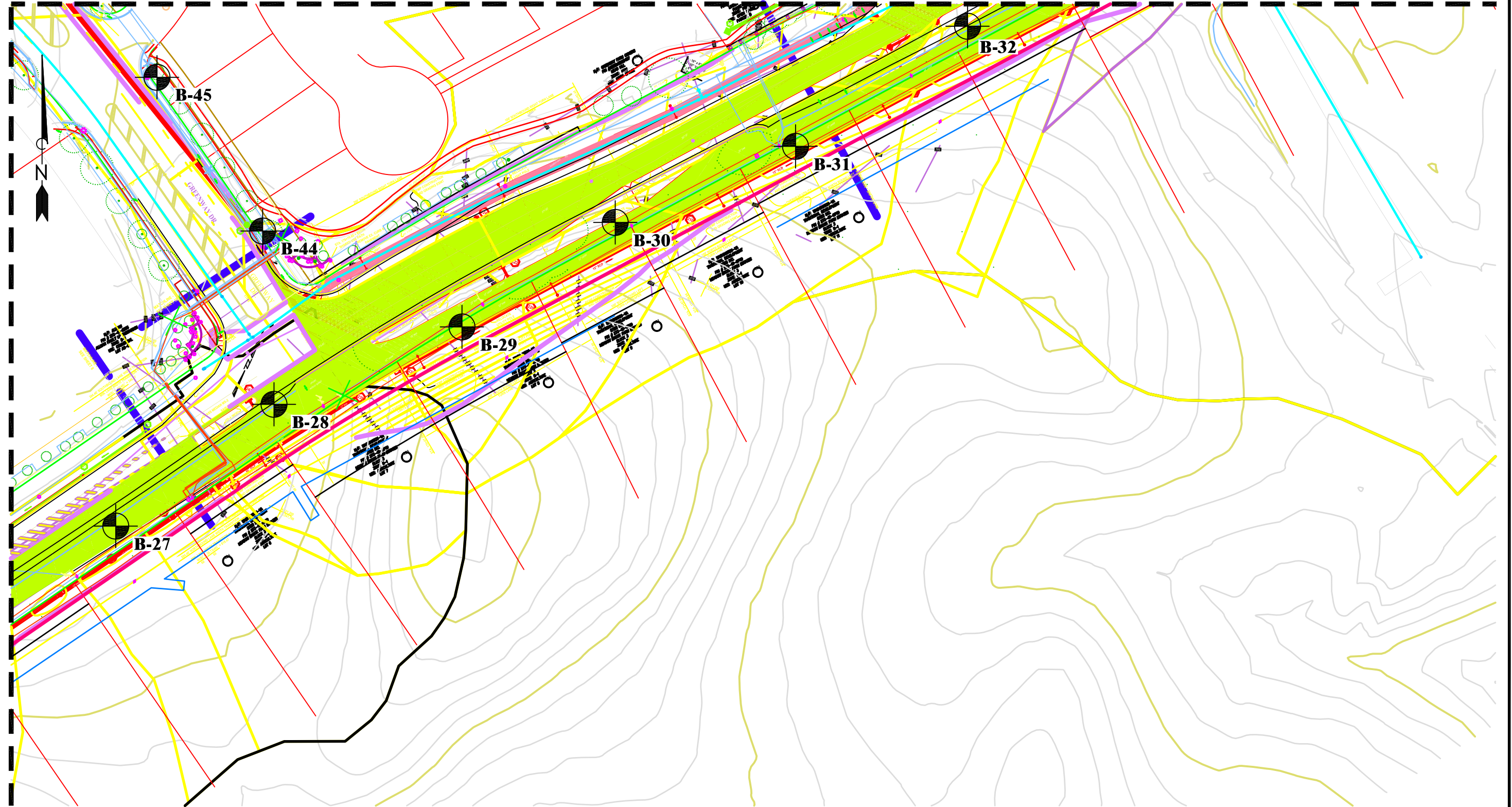
Project No.:
27051

8

MATCH LINE SHEET 10

MATCH LINE SHEET 10

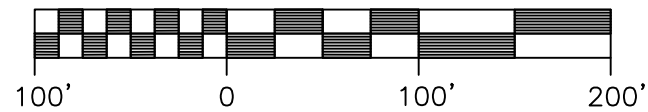
MATCH LINE SHEET 8



L E G E N D


 APPROXIMATE BORING LOCATION

GRAPHICAL SCALE



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VIRTS CORNER INTERSECTION
SOUTH KING STREET, LEESBURG, VIRGINIA

BORING LOCATION PLAN

Scale:
AS SHOWN

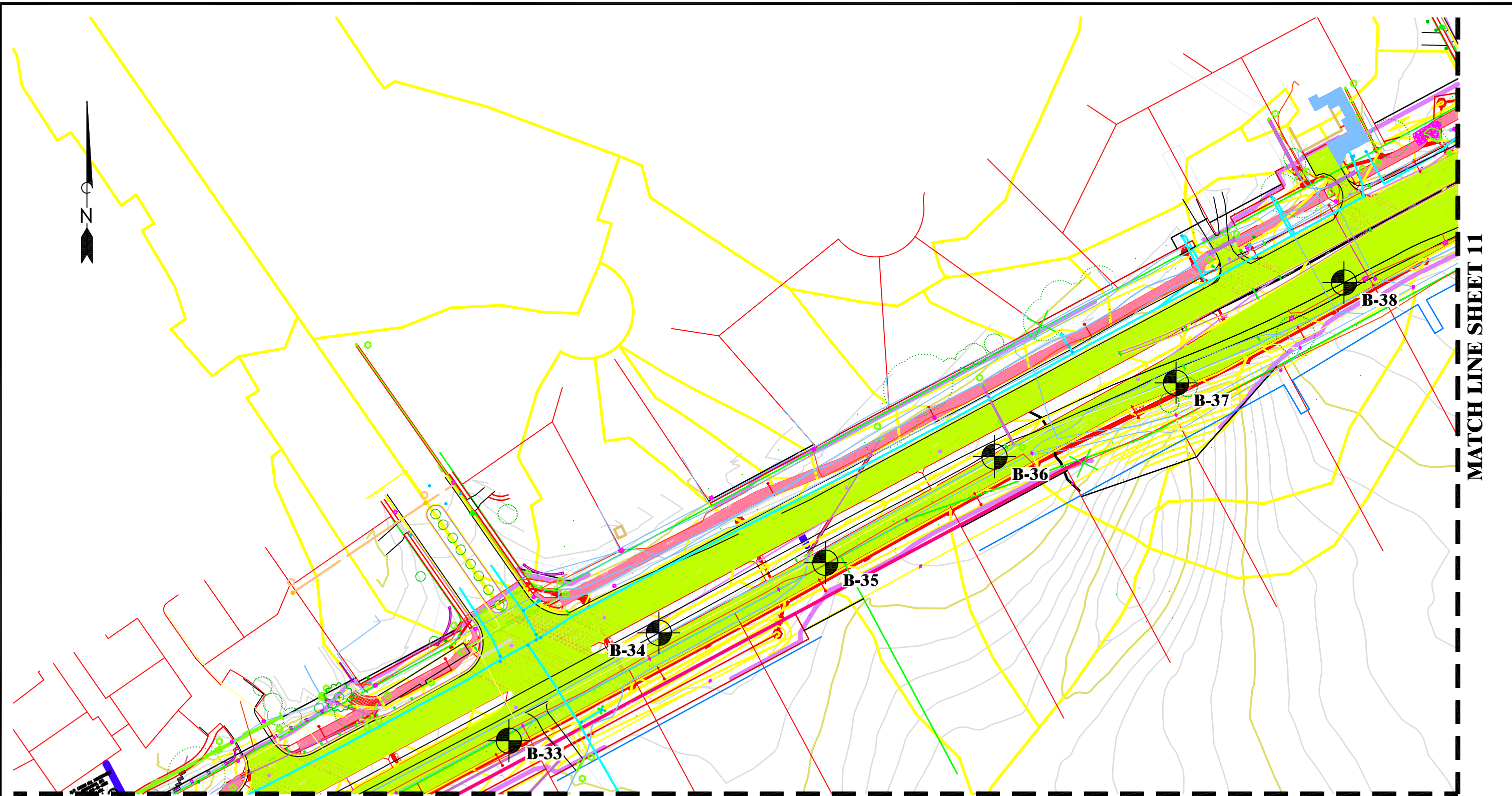
Fig.

Date:
DEC 2010

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Project No.:
27051

9

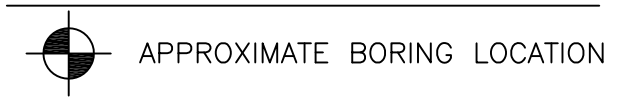


MATCH LINE SHEET 9

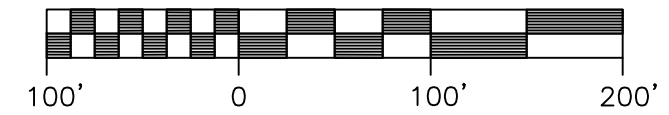
MATCH LINE SHEET 9

MATCH LINE SHEET 11

L E G E N D



GRAPHICAL SCALE



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Ashburn, Virginia 20147 (703) 726-8032 fax

VIRTS CORNER INTERSECTION
SOUTH KING STREET, LEESBURG, VIRGINIA

BORING LOCATION PLAN

Scale:
AS SHOWN

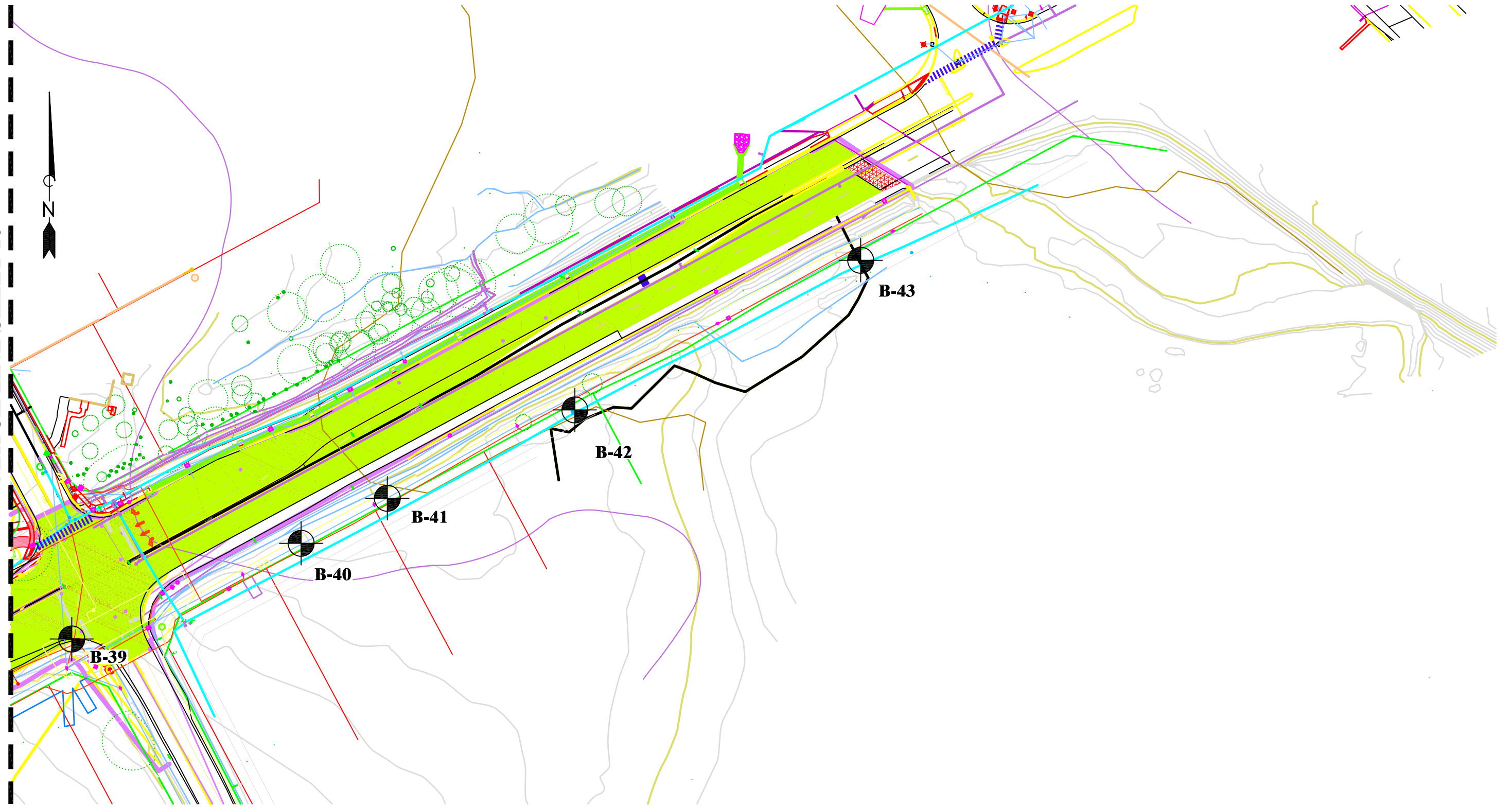
Date:
DEC 2010

Checked By:
P.E.B.

Project No.:
27051

Fig.
10

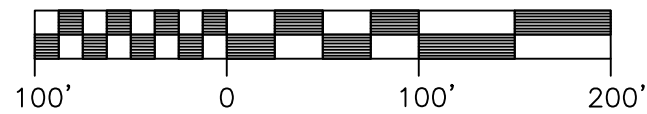
MATCH LINE SHEET 10



L E G E N D



GRAPHICAL SCALE



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Ashburn, Virginia 20147 (703) 726-8032 fax

VIRTS CORNER INTERSECTION
SOUTH KING STREET, LEESBURG, VIRGINIA

BORING LOCATION PLAN

Scale:
AS SHOWN

Fig.

Date:
DEC 2010

Checked By:
P.E.B.

Project No.:
27051

11

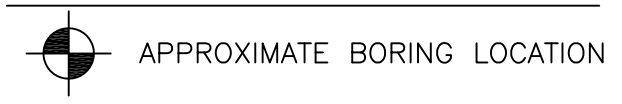


MATCH LINE SHEET 10

MATCH LINE SHEET 10

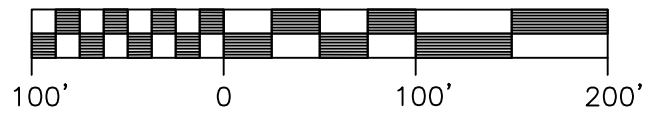
MATCH LINE SHEET 11

L E G E N D



APPROXIMATE BORING LOCATION

GRAPHICAL SCALE



**GeoConcepts
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VIRTS CORNER INTERSECTION
SOUTH KING STREET, LEESBURG, VIRGINIA

BORING LOCATION PLAN

Scale:
AS SHOWN

Fig.

Date:
DEC 2010

Checked By:
P.E.B.

Project No.:
27051

12

Soil Laboratory Test Report

Summary of Soil Laboratory Test Results (1 page)
Moisture Density Relationship Curves (4 pages)
CBR Test Curves (4 pages)

Summary of Soil Laboratory Test Results

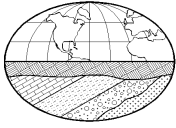
Project: Virt's Corner Intersection and South King Street Widening

Contract No.: 27051

Boring	Depth (ft.)	Sample Type	Stratum	Description of Soil Specimen	Sieve Results		Atterberg Limits			Natural Moisture Content (%)	Remarks
					Percent Retained # 4 Sieve	Percent Passing # 200 Sieve	LL	PL	PI		
B-4	1.0-5.0	Bulk	C1	sandy LEAN CLAY (CL)	7.9	66.3	39	21	18	22.1	CBR = 4.2%
B-7	1.0-4.0	Bulk	C1	ELASTIC SILT (MH) with sand	8.2	74.9	50	29	21	26.1	CBR = 5.2%
B-14	1.5-2.0	Jar	C1	LEAN CLAY (CL) with sand	6.0	74.0	40	25	15	26.7	-
B-18	0-2.0	Jar	C1	sandy LEAN CLAY (CL)	11.1	59.9	33	22	11	22.5	-
B-22	1.0-5.0	Bulk	C1	sandy LEAN CLAY (CL) with gravel	16.7	55.9	38	23	15	20.6	CBR = 15.7%
B-28	1.0-2.5	Jar	A	LEAN CLAY (CL) with gravel	13.8	76.5	32	20	12	20.6	-
B-33	3.5-5.0	Jar	D1	clayey GRAVEL (GC) with sand	31.7	45.7	25	17	8	14.1	-
B-38	1.0-5.0	Bulk	D1	LEAN CLAY (CL) with sand	5.9	83.5	31	18	13	15.0	CBR = 6.8%
B-43	0-2.0	Jar	B	LEAN CLAY (CL) with sand	6.1	76.1	35	20	15	21.1	-
B-46	5.0-6.5	Jar	C1	sandy LEAN CLAY (CL) with gravel	19.7	50.7	40	22	18	17.1	-
SWM-2	6.0-7.5	Jar	C1	clayey GRAVEL (GC) with sand	42.4	28.5	68	25	43	11.4	-

Notes:

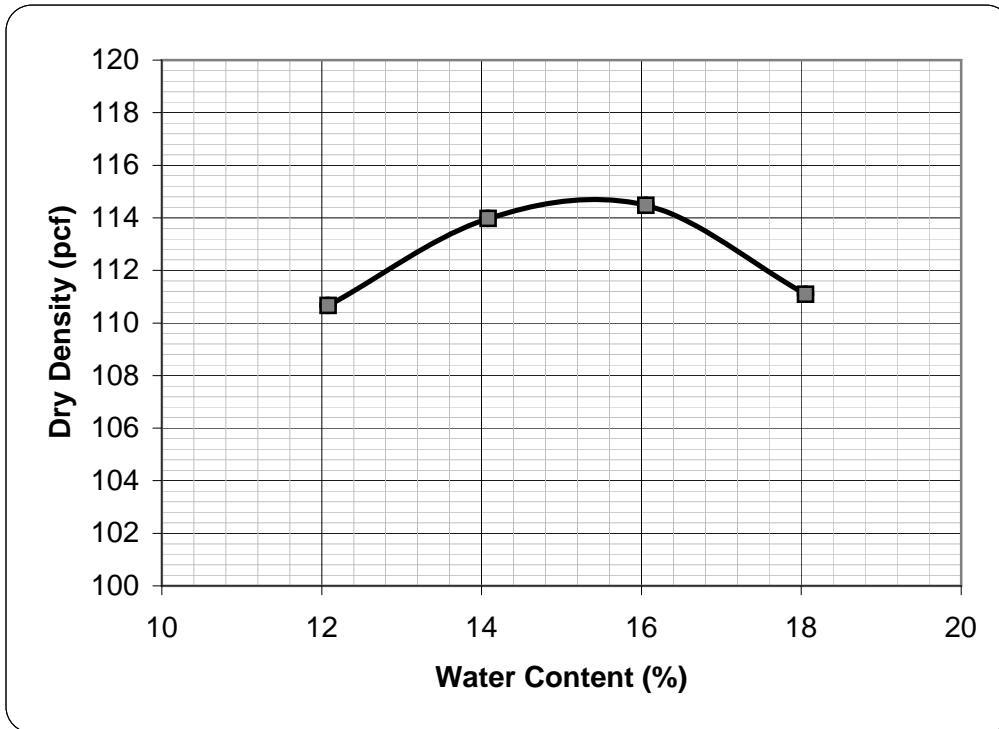
1. Soil tests are in accordance with applicable ASTM standards.
2. Soil classification symbols are in accordance with Unified Soil Classification System.
3. Visual identification of samples is in accordance with ASTM D-2488.
4. Key to abbreviations: LL= Liquid Limit; PL= Plastic Limit; PI= Plasticity Index; NP= Nonplastic; N/T = Not Tested



GeoConcepts Engineering, Inc.

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MOISTURE-DENSITY RELATIONSHIP			
Project No.	27051	Project Name	Virt's Corner
Test Boring No.	Leesburg, Virginia	Depth (Feet)	1 - 5
Sample No.	B-4	Date	1/30/2009

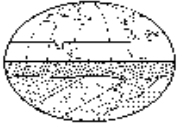


TEST RESULTS	Before Correc.		After Correc.		LL	PI	% > # 4	% < #200
	Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Nat. Moist. (%)	Sp. G. (Assumed)				
	115	16	22.1	2.65	39	18	7.9	66.3
Material	Classification		Nat. Moist. (%)	Sp. G. (Assumed)	LL	PI	% > # 4	% < #200
sandy Lean Clay	USCS	AASHTO						
	CL	A-6						

VTM-001

Tested by _____

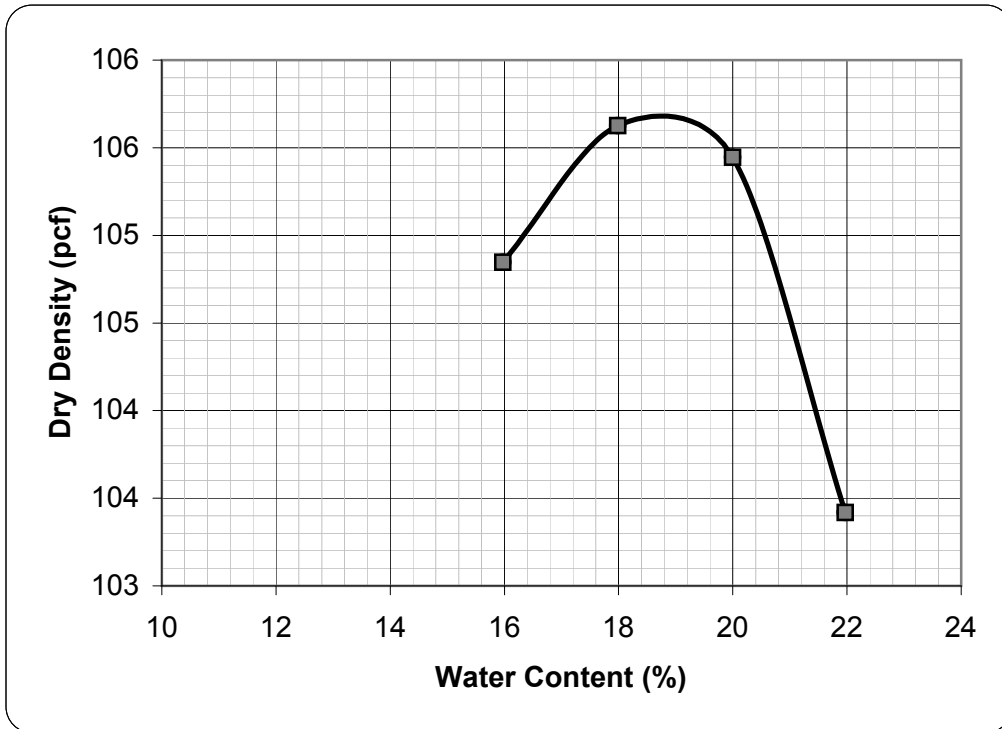
Reviewed by _____



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Ashburn, Virginia 20147
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Fax (703) 726-8032

MOISTURE-DENSITY RELATIONSHIP			
Project No.	27051	Project Name	Virt's Corner
Test Boring No.	Leesburg, Virginia	Depth (Feet)	1 - 4
Sample No.	B-7	Date	1/30/2009



TEST RESULTS	Before Correc.		After Correc.					
	Maximum Dry Density (pcf)	106		--				
Optimum Moisture Content (%)	18		--					
Material	Classification		Nat. Moist. (%)	Sp. G. (Assumed)	LL	PI	% > # 4	% < #200
	USCS	AASHTO						
Elastic Silt with sand	MH	A-7-6	26.1	2.65	50	21	8.2	74.9

VTM-001

Tested by _____

Reviewed by

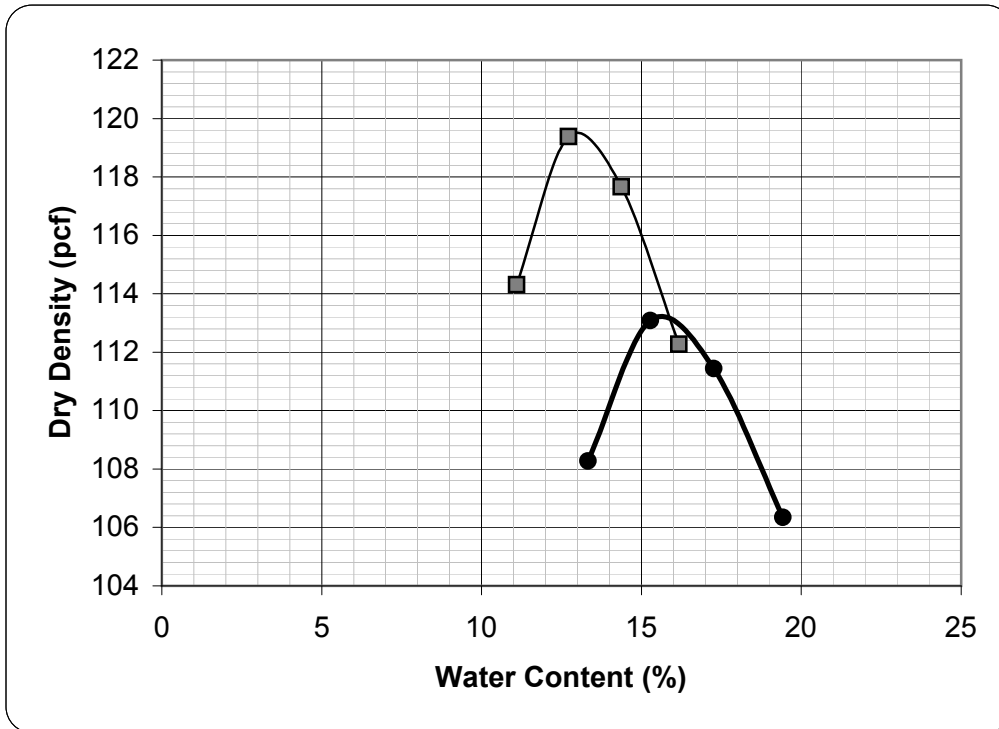
R. Drew Thomas



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MOISTURE-DENSITY RELATIONSHIP			
Project No.	27051	Project Name	Virt's Corner
Test Boring No.	Leesburg, Virginia	Depth (Feet)	1 - 5
Sample No.	B-22	Date	1/30/2009



TEST RESULTS	Before Correc.		After Correc.		LL	PI	% > # 4	% < #200
	Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Nat. Moist. (%)	Sp. G. (Assumed)				
Maximum Dry Density (pcf)	113	120						
Optimum Moisture Content (%)	16	13						
Material	Classification		Nat. Moist. (%)	Sp. G. (Assumed)	LL	PI	% > # 4	% < #200
	USCS	AASHTO						
sandy Lean Clay with gravel	CL	A-6	20.6	2.65	38	15	16.7	55.9

VTM-001

Tested by _____

Reviewed by

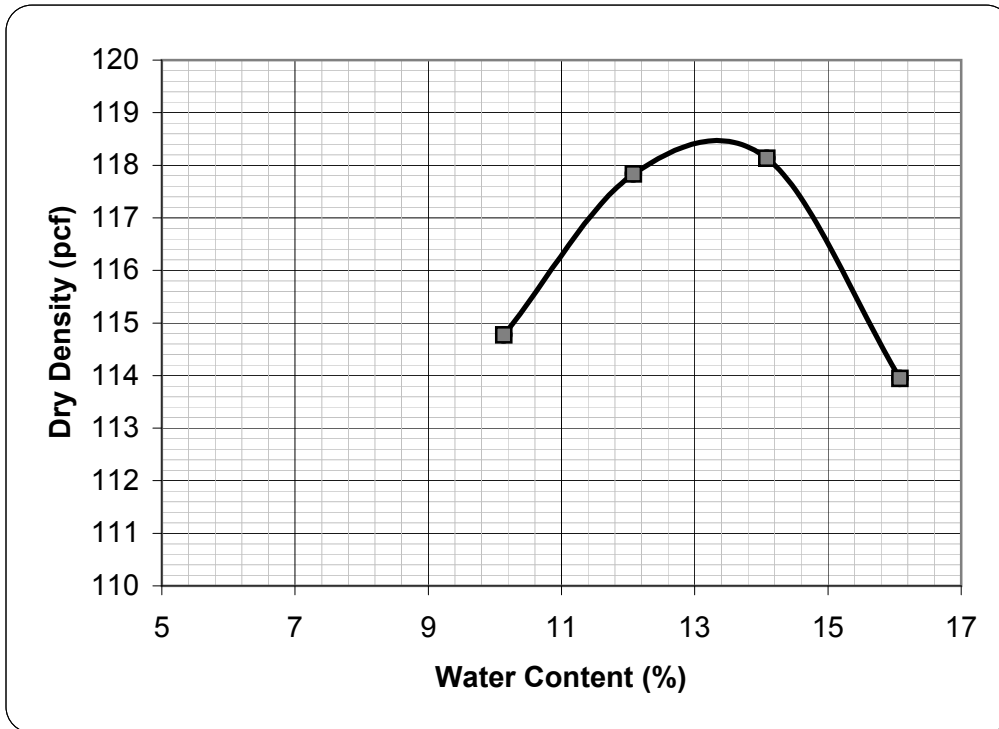
R. Drew Thomas



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MOISTURE-DENSITY RELATIONSHIP			
Project No.	27051	Project Name	Virt's Corner
Test Boring No.	Leesburg, Virginia	Depth (Feet)	1 - 5
Sample No.	B-38	Date	1/30/2009

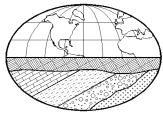


TEST RESULTS	Before Correc.		After Correc.					
	Maximum Dry Density (pcf)	118		--				
Optimum Moisture Content (%)	13		--					
Material	Classification		Nat. Moist. (%)	Sp. G. (Assumed)	LL	PI	% > # 4	% < #200
	USCS	AASHTO						
Lean Clay with sand	CL	A-6	15.0	2.65	31	13	5.9	83.5

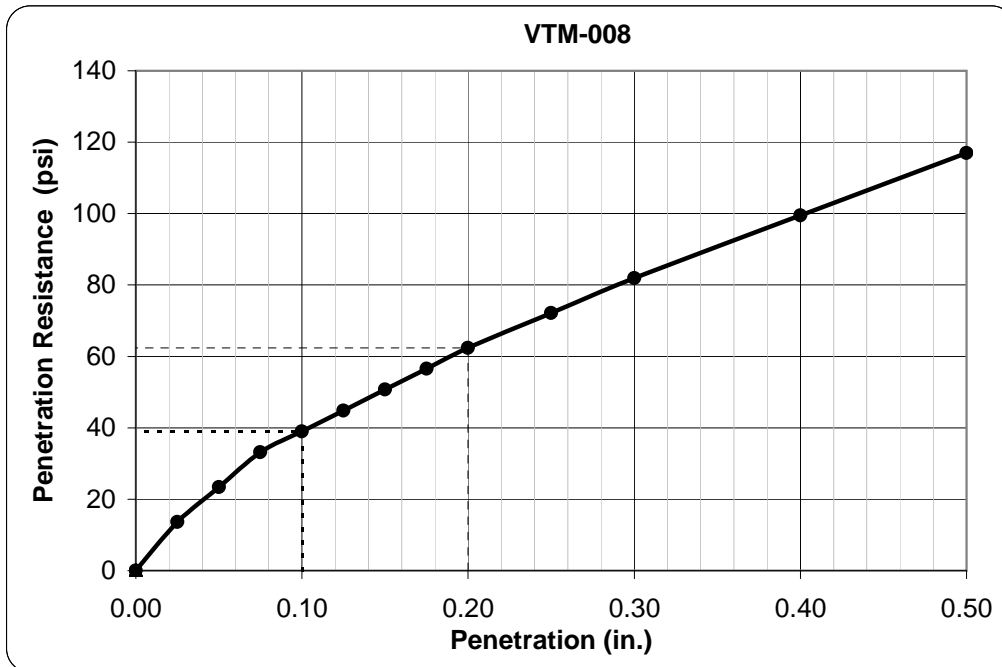
VTM-001

Tested by _____

Reviewed by R. Drew Thomas



CALIFORNIA BEARING RATIO (CBR) TEST			
Project No.	27051	Project Name	Virt's Corner
Test Boring No.	Leesburg, Virginia	Depth (Feet)	1 - 5
Sample No.	B-4	Date	1/30/2009



Molded	
Dry Density (pcf)	110.5
Moisture (%)	16.2
Percent of Max. Density (%)	96.1

Linearity Correction	0.000
Surcharge (lbs)	10
Max Swell (%)	0.4

Soaked	
Dry Density (pcf)	110.1
Moisture (%)	19.2
Percentage of Max. Density (%)	95.8

Material Description	sandy Lean Clay
USCS	CL
Max Density	115
Optimum Moisture (%)	16
LL	39
PI	18

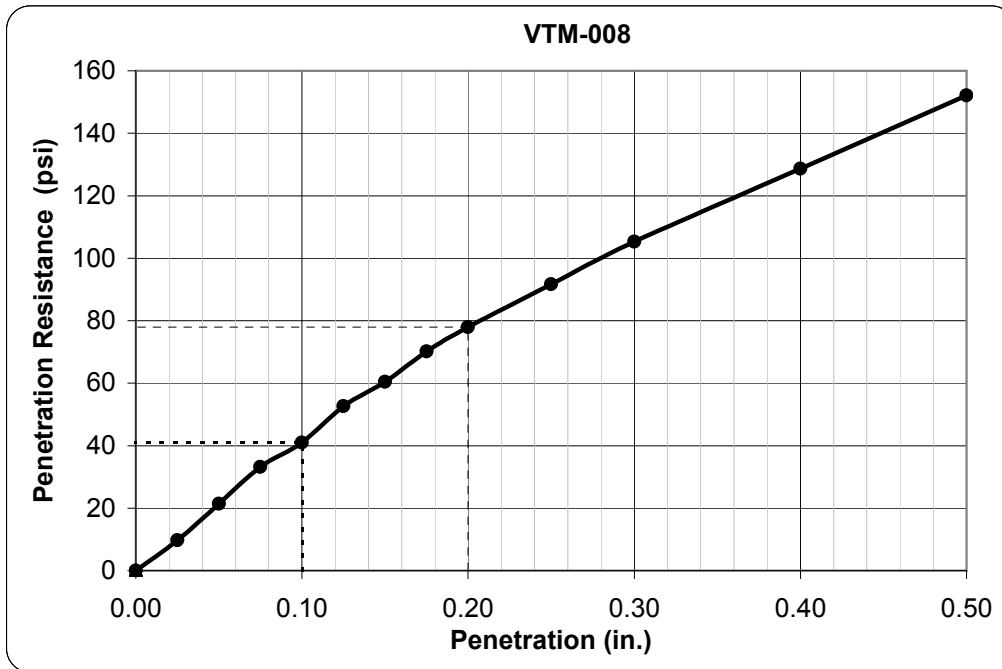
CBR (%)	
0.1 in.	3.9
0.2 in.	4.2

Tested by: _____

Reviewed by: _____



CALIFORNIA BEARING RATIO (CBR) TEST			
Project No.	27051	Project Name	Virt's Corner
Test Boring No.	Leesburg, Virginia	Depth (Feet)	1 - 4
Sample No.	B-7	Date	1/30/2009



Molded	
Dry Density (pcf)	104.2
Moisture (%)	17.7
Percent of Max. Density (%)	98.3

Linearity Correction	0.000
Surcharge (lbs)	10
Max Swell (%)	2.8

Soaked	
Dry Density (pcf)	101.4
Moisture (%)	24.3
Percentage of Max. Density (%)	95.6

Material Description	Elastic Silt with sand
USCS	MH
Max Density	106
Optimum Moisture (%)	18
LL	50
PI	21

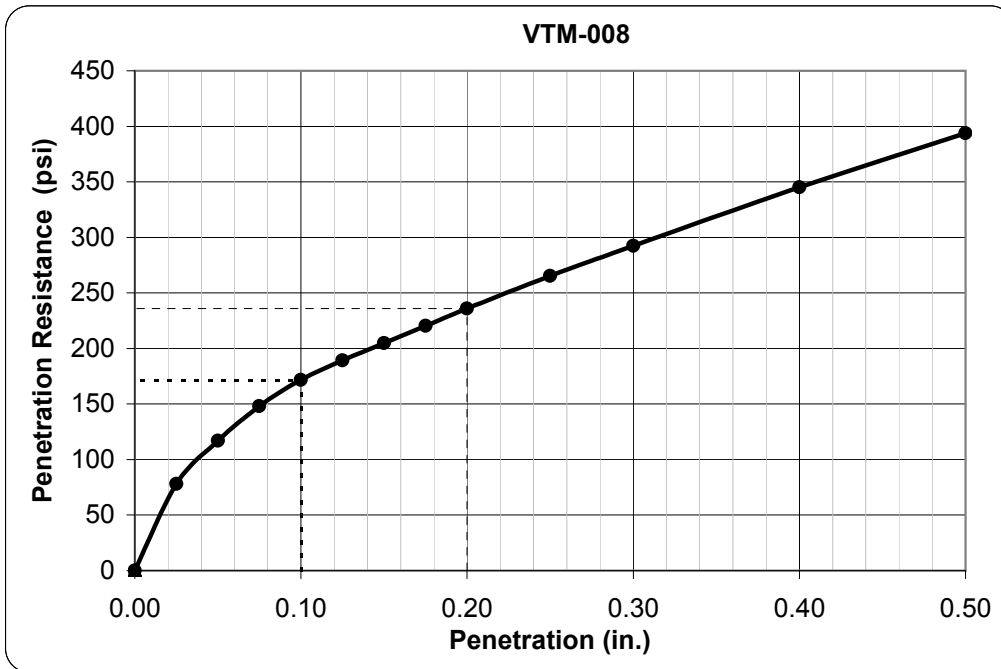
CBR (%)	
0.1 in.	4.1
0.2 in.	5.2

Tested by: _____

Reviewed by: R. Drew Thomas



CALIFORNIA BEARING RATIO (CBR) TEST			
Project No.	27051	Project Name	Virt's Corner
Test Boring No.	Leesburg, Virginia	Depth (Feet)	1 - 5
Sample No.	B-22	Date	1/30/2009



Molded	
Dry Density (pcf)	118.9
Moisture (%)	12.9
Percent of Max. Density (%)	99.1

Linearity Correction	0.000
Surcharge (lbs)	10
Max Swell (%)	0.5

Soaked	
Dry Density (pcf)	118.2
Moisture (%)	19.6
Percentage of Max. Density (%)	98.5

Material Description	sandy Lean Clay with gravel
USCS	CL
Max Density	120
Optimum Moisture (%)	13
LL	38
PI	15

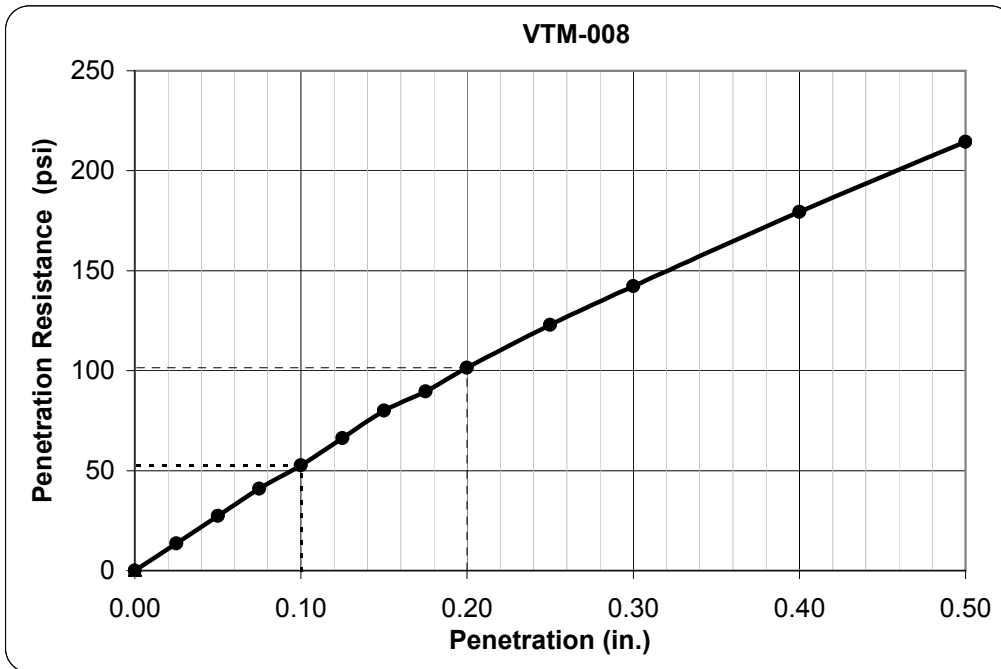
CBR (%)	
0.1 in.	17.2
0.2 in.	15.7

Tested by: _____

Reviewed by: R. Drew Thomas



CALIFORNIA BEARING RATIO (CBR) TEST			
Project No.	27051	Project Name	Virt's Corner
Test Boring No.	Leesburg, Virginia	Depth (Feet)	1 - 5
Sample No.	B-38	Date	1/30/2009



Molded	
Dry Density (pcf)	118.6
Moisture (%)	12.8
Percent of Max. Density (%)	100.5

Linearity Correction	0.000
Surcharge (lbs)	10
Max Swell (%)	1.4

Soaked	
Dry Density (pcf)	116.9
Moisture (%)	14.1
Percentage of Max. Density (%)	99.1

Material Description	Lean Clay with sand
USCS	CL
Max Density	118
Optimum Moisture (%)	13
LL	31
PI	13

CBR (%)	
0.1 in.	5.3
0.2 in.	6.8

Tested by: _____

Reviewed by: _____

R. Drew Thomas

Pavement Analysis

South King Street – New Northbound Lanes (2 pages)
 Gleedsville Road – New Section (1 page)
 Masons Lane – New Section (1 page)
South King Street – Mill and Overlay (2 pages)

1993 AASHTO Pavement Design

DARWin Pavement Design and Analysis System

A Proprietary AASHTOWare Computer Software Product

Rebecca Smith-Zakowicz

Flexible Structural Design Module

SOUTH KING STREET WIDENING

Flexible Structural Design

18-kip ESALs Over Initial Performance Period	5,899,878
Initial Serviceability	4.2
Terminal Serviceability	2.8
Reliability Level	90 %
Overall Standard Deviation	0.49
Roadbed Soil Resilient Modulus	6,000 psi
Stage Construction	1
Calculated Design Structural Number	5.33 in

Rigorous ESAL Calculation

Performance Period (years)	20
Two-Way Traffic (ADT)	19,000
Number of Lanes in Design Direction	2
Percent of All Trucks in Design Lane	90 %
Percent Trucks in Design Direction	50 %

Vehicle Class	Percent of ADT	Annual % Growth	Average Initial Truck Factor (ESALs/Truck)	Annual % Growth in Truck Factor	Accumulated 18-kip ESALs over Performance Period
2	90	1.5	0.0002	0	12,844
4	1	1.5	0.37	0	264,025
5	2	1.5	0.37	0	528,049
6	2	1.5	0.37	0	528,049
8	5	1.5	1.28	0	4,566,911
Total	100	-	-	-	5,899,878

Growth Simple

Total Calculated Cumulative ESALs 5,899,878

Specified Layer Design

Layer	Material Description	Struct Coef. (Ai)	Drain Coef. (Mi)	Thickness (Di)(in)	Width (ft)	Calculated SN (in)
1	SM-9.5D	0.44	1	2	-	0.88
2	IM-19.0A	0.44	1	2	-	0.88
3	BM-25.0A	0.44	1	5	-	2.20

<u>Layer</u>	<u>Material Description</u>	Struct Coef. <u>(Ai)</u>	Drain Coef. <u>(Mi)</u>	Thickness <u>(Di)(in)</u>	Width <u>(ft)</u>	Calculated <u>SN (in)</u>
4	Asphalt Stabilized OGD	0.2	1	4	-	0.80
5	CTA	0.12	1	6	-	0.72
Total	-	-	-	19.00	-	5.48

*Note: This value is not represented by the inputs or an error occurred in calculation.

Gleedsville Road Pavement Design (Based on VDOT Guidelines, 2000)

CBR1	4.2
CBR2	6.8
CBR3	-
CBR4	-
CBR5	-
Average CBR	5.5
Design CBR	3.7
Resiliency Factor (RF)	1
Soil Support Value (SSV)	3.67

ADT (2008)	1100
Growth Factor (%)	1.5
No. of years (n)	12
Design ADT_n	1315
Lane Factor	1.0
ADT (Design) for D_R	1315
(D_R)*	15.5

* Refer to Nomograph

Year of roadway completion = 2010 (assumed)

Layer Name	Layer Thickness "t" (in)	Thicknes Equivalency Value "a"	D =a x t
SM-9.5D	2.00	2.25	4.5
BM-25.0A	6.00	2.25	13.5
Untreated Aggregate #21-B	18.00	0.6	10.8
Thickness Index Value of a Pavement (D_P) =			28.80

D_P > D_R

Design Status	OK
----------------------	-----------

Layer Name	Layer Thickness "t" (in)	Thicknes Equivalency Value "a"	D =a x t
SM-9.5D	2.00	2.25	4.5
BM-25.0A	3.00	2.25	6.75
Asphalt Treated Aggregate	6.00	1.33	7.98
Untreated Aggregate #21-B			0
Thickness Index Value of a Pavement (D_P) =			19.23

D_P > D_R

Design Status	OK
----------------------	-----------

Masons Lane Pavement Design (Based on VDOT Guidelines, 2000)

CBR1	4.2
CBR2	6.8
CBR3	-
CBR4	-
CBR5	-
Average CBR	5.5
Design CBR	3.7
Resiliency Factor (RF)	1
Soil Support Value (SSV)	3.67

ADT (2008)	3237
Growth Factor (%)	1.5
No. of years (n)	12
Design ADT_n	3870
Lane Factor	1.0
ADT (Design) for D_R	3870
(D_R)*	19.2

* Refer to Nomograph

Year of roadway completion = 2010 (assumed)

Layer Name	Layer Thickness "t" (in)	Thicknes Equivalency Value "a"	D =a x t
SM 9.5D	2.00	2.25	4.5
BM-25.0A	6.00	2.25	13.5
Untreated Aggregate #21-B	18.00	0.6	10.8
Thickness Index Value of a Pavement (D_P) =			28.80

D_P > D_R

Design Status	OK
----------------------	-----------

Layer Name	Layer Thickness "t" (in)	Thicknes Equivalency Value "a"	D =a x t
SM-9.5D	2.00	2.25	4.5
BM-25.0A	3.00	2.25	6.75
Asphalt Treated Aggregate	6.00	1.33	7.98
			0
Thickness Index Value of a Pavement (D_P) =			19.23

D_P > D_R

Design Status	OK
----------------------	-----------

1993 AASHTO Pavement Design

DARWin Pavement Design and Analysis System

A Proprietary AASHTOWare
Computer Software Product

Overlay Design Module

KING STREET - MILL AND OVERLAY

AC Overlay of AC Pavement

Structural Number for Future Traffic

5.09 in

<u>Design Method</u>	<u>Effective Existing Structural Number (in)</u>	<u>Overlay Structural Number (in)</u>
Component Analysis	3.41	1.68
Remaining Life	-	-
Non-Destructive Testing	-	-

Structural Number for Future Traffic

Future 18-kip ESALs Over Design Period	4,279,671
Initial Serviceability	4.2
Terminal Serviceability	2.8
Reliability Level	90 %
Overall Standard Deviation	0.49
Subgrade Resilient Modulus	6,000 psi
Calculated Structural Number for Future Traffic	5.09 in

Effective Pavement Thickness - Component Analysis Method

<u>Layer</u>	<u>Material Description</u>	<u>Structural Coefficient</u>	<u>Drainage Coefficient</u>	<u>Thickness (in)</u>
1	HMA	0.35	1	10
2	Aggregate Base	0.12	1	8
Milling Thickness		3 in		

Calculated Results

Calculated Pavement Structural Number Before Milling	4.46 in
Calculated Effective Pavement Structural Number	3.41 in

Future Rigorous ESAL Calculation

Performance Period (years)	15
Two-Way Traffic (ADT)	19,000
Number of Lanes in Design Direction	2
Percent of All Trucks in Design Lane	90 %
Percent Trucks in Design Direction	50 %

Vehicle Class	Percent of ADT	Annual % Growth	Average Initial Truck Factor (ESALs/Truck)	Annual % Growth in Truck Factor	Accumulated 18-kip ESALs over Performance Period
2	90	1.5	0.0002	0	9,317
4	1	1.5	0.37	0	191,519
5	2	1.5	0.37	0	383,038
6	2	1.5	0.37	0	383,038
8	5	1.5	1.28	0	3,312,759
Total	100	-	-	-	4,279,671

Growth Simple

Total Calculated Cumulative ESALs 4,279,671

Specified Layer Design

Layer	Material Description	Struct. Coef. (Ai)	Drain. Coef. (Mi)	Thickness (Di)(in)	Width (ft)	Calculated SN (in)
1	SM 9.5D	0.44	1	2	-	0.88
2	IM-19.0A	0.44	1	2	-	0.88
Total	-	-	-	4.00	-	1.76