COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, VIRGINIA 23219-2000

Stephen C. Brich, P.E.
Commissioner

July 2, 2019

Order No.: A72
Project: (NFO)0612-047-631,C501; 0658-047-R97,M501
FHWA: STP-5A03(684)
District: Hampton Roads
County: James City
Route: 612
Bids: July 24, 2019

To Holders of Bid Proposals:

Please make the following changes in your copy of the bid proposal for the captioned project:

BID PROPOSAL

Substitute Cover Sheet as it has been revised.

Substitute C-7 as it has been revised.

Substitute Schedule of Items as they have been revised.

Substitute Table of Contents as it has been revised.

Add page 195 as Section 703 Traffic Signals (ATC Hardware and Firmware) (3-21-19) has been added.

Add pages 196 through 201 as Accessible Pedestrian Signals Equipment (3-29-18) has been added.

PLANS

Substitute Plan Sheet Pages as follows:
UPC 100921: 1D, 2Q, 12(2), 13(2), 13(2A), 15(1) & 15(2B)
UPC 108805: 1D, 1J & 2B

These plans are available to be viewed and downloaded from the ProjectWise.

Harold R. Caples, P. E.
State Contract Engineer
Construction Division

Enclosures

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, VIRGINIA 23219-2000

Stephen C. Brich, P.E.
Commissioner

June 13, 2019

Order No.:	A72
Project:	(NFO)0612-047-631,C501 0658-047-R97,M501
FHWA:	STP-5A03(684)
District:	Hampton Roads
County:	James City
Route:	612
Bids:	June 26, 2019

To Holders of Bid Proposals:

Please make the following changes in your copy of the bid proposal for the captioned project:

BID PROPOSAL

Substitute Schedule of Items as they been revised.

Substitute Table of Contents as it has been revised.

Substitute pages 158 thru 160 as Special Provision Section 502-Incidental Concrete Items (7-9-18) has been deleted.

Substitute page 188 as Special Provision Temporary Drainage (7-9-18) has been deleted.

Add pages 191 thru 193 as Special Provision Section 502- Incidental Concrete Items (6-10-19) has been added.

Add page 194 as Special Provision Temporary Drainage (5-28-19) has been added.

PLANS

Substitute the Following Road Plan Sheet pages: 1B,1D, 1h(3),1h(4),1j1(8),1j1a(8),12(2),13(7),15(2a), 15(5),15(6) and 15(8)

Replace SWPPP Sheets 2w, 2x and 2y with 2w, 2x, 2y(1) and 2y(2).

These plans are available to be viewed and downloaded from ProjectWise.

Digitally signed by Harold R Caples, P.E.
Date: 2019.06.14 12:15:18 -04'00'

Harold R. Caples, P. E.
State Contract Engineer
Construction Division

Enclosures

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, VIRGINIA 23219-2000

Stephen C. Brich, P.E.
Commissioner

April 24, 2019

Order No.:	A72
Project:	(NFO)0612-047-631,C501 0658-047-R97,M501
FHWA:	STP-5A03(684)
District:	Hampton Roads
County:	James City
Route:	612
Bids:	June 26, 2019

To Holders of Bid Proposals:

Please make the following changes in your copy of the bid proposal for the captioned project:

BID PROPOSAL

Substitute Schedule of Items as they been revised.

Substitute Table of Contents as it has been revised.

Substitute pages 48 and 49 as Special Provision Controlled Blasting (4-11-17) has been deleted.

Add pages 189 and 190 as Special Provision Sidewalk Materials (4-23-17) has been added.

PLANS

Substitute the Following Road Plan Sheet pages: 1D, 2O, 2P, 2Q, 14(8)

These plans are available to be viewed and downloaded from the ProjectWise.

Digitally signed by Harold R Caples, P.E.
Date: 2019.04.24 15:26:53 -04'00'

Harold R. Caples, P. E.
State Contract Engineer
Construction Division

Enclosures

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

Form C-6a
Rev. 3-22-05

CNSP (F) 1-9-06

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
BID PROPOSAL AND CONTRACT

ROUTE NUMBER: 612

FHWA NUMBER: STP-5A03(684)

PROJECT NUMBER: (NFO)0612-047-631,C501; 0658-047-R97,M501

COUNTY: JAMES CITY

DISTRICT: HAMPTON ROADS

DESCRIPTION: SMART Scale*- ROADWAY WIDENING

FROM: 0.205 MI. N. INT. RTE. 658 (OLDE TOWNE RD.)

TO: 0.105 MI. S. OF WILLIAMSBURG WEST DR.

DATE BID SUBMITTED: 10:00 A.M. WEDNESDAY JULY 24, 2019

Revised July 02, 2019

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

Form C-118
Rev. 7-6-05

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
NOTICE TO BIDDERS

As a matter of information, the bidder's attention is directed to the points noted herein. Every point enumerated below is fully covered by proposal documents that describe them in detail. Bidders should check their proposal against all requirements, as strict compliance with all provisions is mandatory.

1. Bids shall be filed electronically through Bidx (www.bidx.com\main\index.html) at the times designated in the Notice of Advertisement for Bids. For information see (http://cabb.virginiadot.org/cabb/)

2. Unless otherwise specified or permitted in the proposal, prices shall be submitted on all items shown in the proposal.

3. Proposals conditioned by proposed alternates, other than those specified or permitted, or by reserving the right to accept or reject an award or to enter into a contract pursuant to an award will not be considered.

4. A bid total shall be shown in each space provided.

5. Bid bonds shall conform to Section 102.07. The bid bond number shall be placed in the appropriate space in your electronic bid. As an alternative you may complete the bottom line of the Form C-24. This form may be mailed or faxed but must be received prior to the opening of the bids.

6. Joint venture proposals shall show the Firm Name of each party and shall be signed by an authorized representative of each Firm. A letter shall be filed with the prequalification office describing responsibility of each firm and the amount of maximum capacity pledge by each firm of a joint venture.

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

Form C-24
Rev. 7-6-05

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
PROPOSAL GUARANTY

KNOW ALL MEN BY THESE PRESENTS, THAT WE _____ As principal, and _____ Surety, are held and firmly bound unto the Commonwealth of Virginia as obligee, in the amount of FIVE PERCENT OF THE DOLLAR VALUE OF THE BID, lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally and firmly by these presents.

SIGNED, sealed and dated this _____ Day of _____, 20 ____

WHEREAS, the above said principal is herewith submitting its proposal for:

PROJECT NUMBER: (NFO)0612-047-631,C501;0658-047-R97,M501

NOW, THEREFORE, the condition of the above obligee is such, that if the aforesaid principal shall be awarded the contract upon said proposal and shall within the time specified in the Specifications after the notice of such award enter into a contract and give bond for the faithful performance of the contract, then this obligation shall be null and void; otherwise to remain in full force and effect and the principal and surety will pay unto the obligee the difference in money between the amount of the bid of the said principal and the amount for which the obligee may legally contract with another party to perform the said work if the latter amount be in excess of the former; but in no event shall the liability exceed the penal sum hereof.

_____ (Principal*)	_____ (Surety Company)
By: _____ (Officer, Partner or Owner) (Seal)	By: _____ (Attorney-in-Fact**) (Seal)
_____ (Principal*)	_____ (Address)
By: _____ (Officer, Partner or Owner) (Seal)	By: _____ (Surety Company)
_____ (Principal*)	_____ (Attorney-in-Fact**) (Seal)
By: _____ (Officer, Partner or Owner) (Seal)	By: _____ (Address)

*Note: If the principal is a *joint venture*, each party thereof must be named and execution made by same hereon. If there is more than one surety to the bid bond, each surety must be named and execution shall be made by same hereon.

Electronic Bid Only: In lieu of completing the above section of the Contract Performance Bond, the Principal shall file an Electronic Bid Bond when bidding electronically. By signing below the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the Commonwealth of Virginia under the same conditions of the bid bond as shown above.

Electronic Bid Bond ID#	Company/Bidder Name	Signature and Title

**Attach copy of Power of Attorney

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

Form C-48
Rev. 2-23-11

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
SUBCONTRACTOR/SUPPLIER SOLICITATION AND UTILIZATION FORM (ALL BIDDERS)

PROJECT NO.: (NFO)0612-047-631,C501; 0658-047-R97,M501

CONTRACT ID. NO.: C0000100921C01

FHWA NO: STP-5A03(684)

DATE SUBMITTED_____

All bidders, including DBEs bidding as Prime Contractors, shall complete and submit the following information as requested in this form within ten (10) business days after the opening of bids.

The bidder certifies this form accurately represents its solicitation and utilization or non-utilization, as indicated, of the firms listed below for performance of work on this contract. The bidder also certifies he/she has had direct contact with the named firms regarding participation on this project.

BIDDER_____SIGNATURE_____

TITLE_____

SUBCONTRACTOR/SUPPLIER SOLICITATION AND UTILIZATION (ALL)

VENDOR NUMBER	NAME OF SUBCONTRACTOR/SUPPLIER	TELEPHONE NUMBER	DBE OR NON-DBE	UTILIZED (Y/N)

NOTE: ATTACH ADDITIONAL PAGES, IF NECESSARY.

BIDDER MUST SIGN EACH ADDITIONAL SHEET TO CERTIFY ITS CONTENT AND COMPLETION OF FORM.

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

TERMS OF THE PROPOSAL\CONTRACT
COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

SUBMITTED: 10:00 A.M. WEDNESDAY JULY 24, 2019

PROJECT NUMBER: (NFO)0612-047-631,C501; 0658-047-R97,M501
ROUTE NUMBER: 612
FHWA NUMBER: STP-5A03(684)

DESCRIPTION: SMART Scale*- ROADWAY WIDENING
FROM: 0.205 MI. N. INT. RTE. 658 (OLDE TOWNE RD.)
TO: 0.105 MI. S. OF WILLIAMSBURG WEST DR.

DISTRICT: HAMPTON ROADS COUNTY: JAMES CITY

I/we declare that no other person, firm or corporation is interested in this proposal; that I/we have carefully examined the plans, job specifications, current Road and Bridge specifications, and all other documents pertaining thereto and thoroughly understand the contents thereof; that I/we meet the prequalification requirements for bidding on this proposal; that I/we understand that the plans and current Road and Bridge specifications, are a part of this proposal; that all of the quantities shown herewith are a part of this proposal; that all the quantities shown herewith are approximate only; that I/we have examined the location of the proposed work and source of supply of materials; and that I/we agree to bind myself/ourselves upon award by the Commonwealth under this proposal to a contract with necessary surety bond to start work according to project specifications, and to complete all work in accordance with the plans, job specifications and current Road and Bridge Specifications within the time limit set forth in the contract.

COMPLETION DATE: OCTOBER 01, 2021

BID TOTAL $_____

Attached is a bond conforming to the requirements of the current Road and Bridge Specifications, it being understood that such bond is to be forfeited as liquidated damages if, upon acceptance of the terms of this proposal, I/we fail to execute the contract and furnish bond as provided in the current Road and Bridge Specifications.

_____

(Names of Individual(S),Firm(S) Or Corporation)

_____ _____

Street Address City State Zip Code Vendor#/Fin#

_____ _____ _____

Print Name Signature Title

In consideration of the commitments made as shown herein, the Commonwealth of Virginia by The Commonwealth Transportation Commissioner agrees to pay for all items of work performed and materials furnished at the unit price(s) and under the conditions set forth in this proposal, in witnessed by the affixing of the name below.

Contract Execution Date _____ By _____

CHIEF ENGINEER
VIRGINIA DEPARTMENT OF TRANSPORTATION

Revised July 02, 2019

Proposal ID: C0000100921C01 Oversight/State Project No.: (NFO) 0612-047-631, C501
Order No.: A72 Federal Project No.: STP-5A03 (684)

Contractor: _____

SECTION: 0001 REGULAR BID ITEMS
Cat Alt Set ID: Cat Alt Mbr ID:

Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0010	513	00100 MOBILIZATION	LUMP SUM	LUMP SUM		_____	_____
0020	517	00101 CONSTRUCTION SURVEYING CONSTRUCTION	LUMP SUM	LUMP SUM		_____	_____
0030	301	00111 CLEARING AND GRUBBING	2.590 ACRE	_____	_____	_____	_____
0040	ATTD	00170 SOIL BIORETENTION MIXTURE	2,835.000 CY	_____	_____	_____	_____
0050	303	00120 REGULAR EXCAVATION	23,941.000 CY	_____	_____	_____	_____
0070	305	00141 BORROW EXCAVATION MIN. CBR-10	2,766.000 CY	_____	_____	_____	_____
0080	305	00305 SELECT MATERIAL TY II MIN CBR-10	82.000 CY	_____	_____	_____	_____
0090	302 504	00525 CONCRETE CLASS A3 MISC.	5.520 CY	_____	_____	_____	_____
0100	509	00529 FLOWABLE BACKFILL	29.440 CY	_____	_____	_____	_____
0110	501	00585 UNDERDRAIN UD-2	760.000 LF	_____	_____	_____	_____
0120	501	00588 UNDERDRAIN UD-4	6,026.000 LF	_____	_____	_____	_____
0130	302	00596 ENDWALL EW-12	2.000 EA	_____	_____	_____	_____
0140	302	01156 STORM SEWER PIPE 15"	2,682.000 LF	_____	_____	_____	_____
0150	302	01186 STORM SEWER PIPE 18"	1,401.000 LF	_____	_____	_____	_____

Revised July 02, 2019

Proposal ID: C0000100921C01 Oversight/State Project No.: (NFO) 0612-047-631, C501
Order No.: A72 Federal Project No.: STP-5A03 (684)

Contractor: _____

SECTION: 0001 REGULAR BID ITEMS
Cat Alt Set ID: Cat Alt Mbr ID:

Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0160	302	01246 STORM SEWER PIPE 24"	724.000 LF	_____	_____	_____	_____
0170	302	01306 STORM SEWER PIPE 30"	378.000 LF	_____	_____	_____	_____
0180	ATTD	02090 PIPE 6" NON-PERFORATED UNDERDRAINS	50.000 LF	_____	_____	_____	_____
0190	ATTD	02090 PIPE 6" PERFORATED UNDERDRAINS	1,489.000 LF	_____	_____	_____	_____
0200	ATTD	02091 PIPE SWM BASIN UNDERDRAIN CLEANOUTS	27.000 EA	_____	_____	_____	_____
0210	302	02242 38" X 24" ELLIPTICAL CONC. PIPE	24.000 LF	_____	_____	_____	_____
0220	302	06151 15" END SECTION ES-1	1.000 EA	_____	_____	_____	_____
0230	302	06241 24" END SECTION ES-1	2.000 EA	_____	_____	_____	_____
0240	302	06301 30" END SECTION ES-1	2.000 EA	_____	_____	_____	_____
0250	302	06740 DROP INLET DI-1	1.000 EA	_____	_____	_____	_____
0260	302	06745 DROP INLET DI-2A	4.000 EA	_____	_____	_____	_____
0270	302	06815 DROP INLET DI-3A	13.000 EA	_____	_____	_____	_____
0280	302	06817 DROP INLET DI-3B,L=4'	5.000 EA	_____	_____	_____	_____
0290	302	06818 DROP INLET DI-3B,L=6'	24.000 EA	_____	_____	_____	_____

Proposal ID: C0000100921C01 Oversight/State Project No.: (NFO) 0612-047-631, C501
Order No.: A72 Federal Project No.: STP-5A03 (684)

Contractor: _____

SECTION: 0001 REGULAR BID ITEMS
Cat Alt Set ID: Cat Alt Mbr ID:

Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0300	302	06819 DROP INLET DI-3B,L=8'	9.000 EA	_____	_____	_____	_____
0310	302	06820 DROP INLET DI-3B,L=10'	1.000 EA	_____	_____	_____	_____
0320	302	06822 DROP INLET DI-3B,L=14'	2.000 EA	_____	_____	_____	_____
0330	302	06826 DROP INLET DI-3BB,L=4'	1.000 EA	_____	_____	_____	_____
0340	302	06828 DROP INLET DI-3BB,L=8'	1.000 EA	_____	_____	_____	_____
0350	302	06835 DROP INLET DI-3C,L=6'	1.000 EA	_____	_____	_____	_____
0360	302	06838 DROP INLET DI-3C,L=12'	1.000 EA	_____	_____	_____	_____
0370	302	06851 DROP INLET DI-3D	1.000 EA	_____	_____	_____	_____
0380	302	07506 DROP INLET DI-5	6.000 EA	_____	_____	_____	_____
0390	302	07508 DROP INLET DI-7	2.000 EA	_____	_____	_____	_____
0400	302	08924 DROP INLET DI-12B,L=4'	1.000 EA	_____	_____	_____	_____
0410	302	09056 MANHOLE MH-1 OR 2	68.500 LF	_____	_____	_____	_____
0420	302	09057 FRAME & COVER MH-1	34.000 EA	_____	_____	_____	_____
0430	414	09150 EROSION CONTROL STONE CLASS I, EC-1	39.650 TON	_____	_____	_____	_____

Proposal ID: C0000100921C01 Oversight/State Project No.: (NFO) 0612-047-631, C501
Order No.: A72 Federal Project No.: STP-5A03 (684)

Contractor: _____

SECTION: 0001 REGULAR BID ITEMS
Cat Alt Set ID: Cat Alt Mbr ID:

Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0440	502	09185 PAVED DITCH PG-2A	92.000 SY	_____	_____	_____	_____
0450	308	10065 AGGR. MATL. NO. 1	2.600 TON	_____	_____	_____	_____
0460	308	10123 AGGR. BASE MATL. TY. I NO. 21A	220.000 TON	_____	_____	_____	_____
0470	308	10128 AGGR. BASE MATL. TY. I NO. 21B	16,040.000 TON	_____	_____	_____	_____
0480	ATTD	10250 AGGR. MATERIAL LIMESTONE CAP	110.000 TON	_____	_____	_____	_____
0490	ATTD	10250 AGGR. MATERIAL NO. 57 STONE	1,683.000 TON	_____	_____	_____	_____
0500	ATTD	16385 AGGREGATE BASE MATERIAL RAP	1,212.000 TON	_____	_____	_____	_____
0510	316	10499 PAVEMENT HYDRAULIC CEMENT CONC. 8" ST'D. PR-2	945.000 SY	_____	_____	_____	_____
0520	ATTD	10499 PAVEMENT STABILIZED GRASS ENTRANCE	121.000 SY	_____	_____	_____	_____
0530	315	10610 ASPHALT CONCRETE TY. IM-19.0A	3,242.000 TON	_____	_____	_____	_____
0540	515	10628 FLEXIBLE PAVEMENT PLANING 0" - 2"	3,334.000 SY	_____	_____	_____	_____
0550	315	10635 ASPHALT CONC.TY. SM-9.5A	386.000 TON	_____	_____	_____	_____

Proposal ID: C0000100921C01 Oversight/State Project No.: (NFO) 0612-047-631, C501
Order No.: A72 Federal Project No.: STP-5A03 (684)

Contractor: _____

SECTION: 0001 REGULAR BID ITEMS
Cat Alt Set ID: Cat Alt Mbr ID:

Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0560	315	10636 ASPHALT CONC.TY. SM-9.5D	2,812.000 TON	_____	_____	_____	_____
0570	315	10642 ASPHALT CONCRETE TY. BM-25.0A	4,338.000 TON	_____	_____	_____	_____
0580	ATTD	38951 LANDSCAPE INTEGRALLY COLORED AND IMPRESSED CONCRETE	1,523.000 SY	_____	_____	_____	_____
0590	315	11070 SAW-CUT ASPH CONC FULL DEPTH	1,419.000 LF	_____	_____	_____	_____
0600	502	12020 STD. CURB CG-2	863.000 LF	_____	_____	_____	_____
0610	502	12022 RADIAL CURB CG-2	199.000 LF	_____	_____	_____	_____
0620	502	12025 CURB MOD. RADIAL CG-3	283.000 LF	_____	_____	_____	_____
0630	502	12030 STD. CURB CG-3	19.000 LF	_____	_____	_____	_____
0640	502	12032 RADIAL CURB CG-3	239.000 LF	_____	_____	_____	_____
0650	502	12311 ASPHALT CONC. CURB MC-3	536.000 LF	_____	_____	_____	_____
0660	502	12600 STD. COMB. CURB & GUTTER CG-6	292.000 LF	_____	_____	_____	_____
0670	502	12610 RADIAL COMB. CURB & GUTTER CG-6	39.000 LF	_____	_____	_____	_____
0680	502	12700 STD. COMB. CURB & GUTTER CG-7	5,240.000 LF	_____	_____	_____	_____

Proposal ID: C0000100921C01 Oversight/State Project No.: (NFO) 0612-047-631, C501
Order No.: A72 Federal Project No.: STP-5A03 (684)

Contractor: _____

SECTION: 0001 REGULAR BID ITEMS
Cat Alt Set ID: Cat Alt Mbr ID:

Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0690	502	12710 RADIAL COMB. CURB & GUTTER CG-7	1,502.000 LF	_____	_____	_____	_____
0700	504	13108 CG-12 DETECTABLE WARNING SURFACE	49.000 SY	_____	_____	_____	_____
0710	504	13220 HYDRAULIC CEMENT CONC. SIDEWALK 4"	636.000 SY	_____	_____	_____	_____
0720	504	13222 HYDRAULIC CEMENT CONC. SIDEWALK 7"	72.000 SY	_____	_____	_____	_____
0730	504	13232 GEOTEXTILE DRAINAGE FABRIC	1,807.000 SY	_____	_____	_____	_____
0740	505	13280 GUARDRAIL GR-MGS1	132.000 LF	_____	_____	_____	_____
0750	505	13286 GUARDRAIL TERMINAL GR-MGS2	1.000 EA	_____	_____	_____	_____
0760	505	13288 GUARDRAIL HEIGHT TRANSITION GR-MGS4	1.000 EA	_____	_____	_____	_____
0770	502	13502 SIGN ISLAND SI-2	13.000 SY	_____	_____	_____	_____
0780	512	24260 CR. RUN AGGR. NO. 25 OR 26	50.000 TON	_____	_____	_____	_____
0790	502	14451 SAW CUT HYDRAULIC CEMENT CONCRETE ITEMS SIDEWALK	13.000 LF	_____	_____	_____	_____
0800	502	21110 MEDIAN STRIP MS-1A	853.000 SY	_____	_____	_____	_____

Proposal ID: C0000100921C01 Oversight/State Project No.: (NFO) 0612-047-631, C501
Order No.: A72 Federal Project No.: STP-5A03 (684)

Contractor: _____

SECTION: 0001 REGULAR BID ITEMS
Cat Alt Set ID: Cat Alt Mbr ID:

Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0810	502	21215 MEDIAN STRIP MS-2	789.000 LF	_____	_____	_____	_____
0820	511	24100 ALLAYING DUST	600.000 HR	_____	_____	_____	_____
0830	512	24150 TYPE 3 BARRICADE 4'	4.000 EA	_____	_____	_____	_____
0840	512	24160 TEMPORARY (CONSTRUCTION) SIGN	934.000 SF	_____	_____	_____	_____
0850	512	24278 GROUP 2 CHANNELIZING DEVICES	36,563.000 DAY	_____	_____	_____	_____
0860	512	24279 PORTABLE CHANGEABLE MESSAGE SIGN	11,880.000 HR	_____	_____	_____	_____
0870	512	24282 FLAGGER SERVICE	820.000 HR	_____	_____	_____	_____
0880	508	24400 OBSCURING ROADWAY	0.700 UNIT	_____	_____	_____	_____
0890	508	24420 DEMOLITION OF PAVEMENT RIGID	119.000 SY	_____	_____	_____	_____
0900	508	24430 DEMOLITION OF PAVEMENT FLEXIBLE	21,616.000 SY	_____	_____	_____	_____
0910	508	24501 REMOVE EXIST. CURB	207.000 LF	_____	_____	_____	_____
0920	510	24504 REMOVE EXISTING PAVEMENT MARKING ARROWS	54.000 EA	_____	_____	_____	_____
0930	510	24535 ADJUST EXIST. STRUCTURE	2.000 EA	_____	_____	_____	_____

Proposal ID: C0000100921C01 Oversight/State Project No.: (NFO) 0612-047-631, C501
Order No.: A72 Federal Project No.: STP-5A03 (684)

Contractor: _____

SECTION: 0001 REGULAR BID ITEMS

Cat Alt Set ID: Cat Alt Mbr ID:

Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0940	505	24600 REMOVE EXISTING GUARDRAIL	230.000 LF	_____	_____	_____	_____
0950	302	24825 MODIFY EXIST. STRUCTURE	20.000 EA	_____	_____	_____	_____
0960	514	25506 FIELD OFFICE TY.II	26.000 MO	_____	_____	_____	_____
0970	ATTD	25565 PROGRESS SCHEDULE BASELINE	LUMP SUM	LUMP SUM		_____	_____
0980	ATTD	25567 PROGRESS SCHEDULE UPDATES	24.000 EA	_____	_____	_____	_____
0990	414	26127 DRY RIPRAP CL.I 26"	317.000 TON	_____	_____	_____	_____
1000	602	27012 TOPSOIL CLASS A 2"	3.070 ACRE	_____	_____	_____	_____
1010	603	27102 REGULAR SEED	817.000 LB	_____	_____	_____	_____
1020	603	27103 OVERSEEDING	368.000 LB	_____	_____	_____	_____
1030	603	27111 HYDRAULIC EROSION CONTROL PRODUCT TYPE 2	17,689.000 SY	_____	_____	_____	_____
1040	603	27112 HYDRAULIC EROSION CONTROL PRODUCT TYPE 3	14,262.000 SY	_____	_____	_____	_____
1050	603	27120 SEDIMENT RETENTION ROLL 18" MIN	130.000 LF	_____	_____	_____	_____
1060	603	27230 FERTILIZER NITROGEN - N	370.000 LB	_____	_____	_____	_____

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Cat Alt Set ID: Cat Alt Mbr ID:

Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
1070	603	27231 FERTILIZER PHOSPHOROUS - P	557.000 LB	_____	_____	_____	_____
1080	603	27232 FERTILIZER POTASSIUM - K	279.000 LB	_____	_____	_____	_____
1090	603	27250 LIME	13.450 TON	_____	_____	_____	_____
1100	303	27284 EROSION CONTROL MULCH	810.000 SY	_____	_____	_____	_____
1105	604	27300 SOD	6,823.000 SY	_____	_____	_____	_____
1110	606	27318 ROLLED EROSION CTRL PRODUCT EC-2 TYPE 1	1,610.000 SY	_____	_____	_____	_____
1120	303	27410 CHECK DAM, ROCK TY. I	1.000 EA	_____	_____	_____	_____
1130	303	27415 CHECK DAM ROCK TY. II	18.000 EA	_____	_____	_____	_____
1140	303	27430 SILTATION CONTROL EXCAVATION	2,096.000 CY	_____	_____	_____	_____
1150	303	27451 INLET PROTECTION TYPE A	10.000 EA	_____	_____	_____	_____
1160	303	27461 INLET PROTECTION TYPE B	70.000 EA	_____	_____	_____	_____
1170	303	27504 TEMP. SILT FENCE TYPE B	408.000 LF	_____	_____	_____	_____
1180	303	27505 TEMP. SILT FENCE TYPE A	4,121.000 LF	_____	_____	_____	_____

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1190	ATTD	27543 STORM WATER MANAGEMENT LOW PERMEABILITY LINER	1,090.000 SY	_____	.____	_____	.____
1200	ATTD	27544 STORM WATER MGT. SHREDDED CYPRESS MULCH	264.000 CY	_____	.____	_____	.____
1210	303	27545 STORM WATER MANAGEMENT BASIN EXCAVATION	6,294.000 CY	_____	.____	_____	.____
1220	ATTD	27553 PERMANENT SWM FACILITY AS-BUILT DOCUMENTATION CONSTRUCTION RECORD DOCUMENTS	LUMP SUM	LUMP SUM		_____	.____
1230	303	27580 TEMP. SEDIMENT BASIN EXCAVATION	1,636.000 CY	_____	.____	_____	.____
1240	605	28805 BED PREPARATION	12.000 UNIT	_____	.____	_____	.____
1250	605	28810 MULCHING	15.000 CY	_____	.____	_____	.____
1260	605	28811 REMULCHING	9.000 CY	_____	.____	_____	.____
1270	605	28844 OVERSIZE PLANTING PIT	808.000 EA	_____	.____	_____	.____
1280	605	38900 PLANT OR TREE AMERICAN BEECH	31.000 EA	_____	.____	_____	.____
1290	605	38900 PLANT OR TREE AMERICAN HOLLY	93.000 EA	_____	.____	_____	.____

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Cat Alt Set ID: Cat Alt Mbr ID:

Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
1300	605	38900 PLANT OR TREE BLACK DRAGON CRYTOMERIA	68.000 EA	_____	_____	_____	_____
1310	605	38900 PLANT OR TREE BULB MIX	2,500.000 EA	_____	_____	_____	_____
1320	605	38900 PLANT OR TREE COMMANCHE CREPE MYRTLE	6.000 EA	_____	_____	_____	_____
1330	605	38900 PLANT OR TREE DEODAR CEDAR	27.000 EA	_____	_____	_____	_____
1340	605	38900 PLANT OR TREE DWARF BLUE CANYON ARCTIC WILLOW	10.000 EA	_____	_____	_____	_____
1350	605	38900 PLANT OR TREE DWARF HINOKI FALSE CYPRESS	131.000 EA	_____	_____	_____	_____
1360	605	38900 PLANT OR TREE EASTERN RED BUD	106.000 EA	_____	_____	_____	_____
1370	605	38900 PLANT OR TREE ELEGANS CRYPTOMERIA	14.000 EA	_____	_____	_____	_____
1380	605	38900 PLANT OR TREE HEAVY METAL SWITCH GRASS	563.000 EA	_____	_____	_____	_____
1390	605	38900 PLANT OR TREE LITTLE GEM MAGNOLIA	80.000 EA	_____	_____	_____	_____
1400	605	38900 PLANT OR TREE MEADOW SWEET	7,056.000 EA	_____	_____	_____	_____

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1410	605	38900 PLANT OR TREE SANGU KAKU CORAL BARK MAPLE	41.000 EA	_____	_____	_____	_____
1420	605	38900 PLANT OR TREE SAVANNAH FOSTER'S HYBRID HOLLY	72.000 EA	_____	_____	_____	_____
1430	605	38900 PLANT OR TREE SWAMP WHITE OAK	68.000 EA	_____	_____	_____	_____
1440	605	38900 PLANT OR TREE TUSCARORA CRAPE MYRTLE	126.000 EA	_____	_____	_____	_____
1450	605	38900 PLANT OR TREE UPRIGHT ENGLISH OAK	138.000 EA	_____	_____	_____	_____
1460	605	38900 PLANT OR TREE WILLOW OAK	27.000 EA	_____	_____	_____	_____
1470	605	38900 PLANT OR TREE YOUNGSTOWN JUNIPER	8.000 EA	_____	_____	_____	_____
1480	404	38950 LANDSCAPE BOULDERS	9.000 EA	_____	_____	_____	_____
1490	404	38951 LANDSCAPE ORNAMENTAL STONE COVER	346.000 SY	_____	_____	_____	_____
1500	404	38955 LANDSCAPE STEEL EDGING	145.000 LF	_____	_____	_____	_____
1510	605	39004 SEED MIXTURE 30" WETLANDS MIX	4.000 LB	_____	_____	_____	_____
1520	605	39004 SEED MIXTURE CONSERVATION SEED MIX	19.000 LB	_____	_____	_____	_____

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1530	520	40002 3/4" WATER SERVICE LINE	92.000 LF	_____	_____	_____	_____
1540	520	40003 1" WATER SERVICE LINE	12.000 LF	_____	_____	_____	_____
1550	520	40008 4" WATER SERVICE LINE	142.000 LF	_____	_____	_____	_____
1560	520	40061 6" DI WATER MAIN	65.000 LF	_____	_____	_____	_____
1570	520	40081 8" DI WATER MAIN	74.000 LF	_____	_____	_____	_____
1580	520	40121 12" DI WATER MAIN	291.000 LF	_____	_____	_____	_____
1590	520	40161 16" DI WATER MAIN	4,087.000 LF	_____	_____	_____	_____
1600	520	40406 16" BEND	15.000 EA	_____	_____	_____	_____
1610	520	40406 16" BEND	6.000 EA	_____	_____	_____	_____
1620	520	40406 16" BEND	38.000 EA	_____	_____	_____	_____
1630	520	40406 16" BEND	2.000 EA	_____	_____	_____	_____
1640	520	40422 16" BRANCH	4.000 EA	_____	_____	_____	_____
1650	520	40422 16" BRANCH	1.000 EA	_____	_____	_____	_____
1660	520	40422 16" BRANCH	2.000 EA	_____	_____	_____	_____
1670	520	40422 16" BRANCH	5.000 EA	_____	_____	_____	_____

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1680	520	40422 16" BRANCH	4.000 EA	_____	_____	_____	_____
1690	520	40460 16" REDUCER	2.000 EA	_____	_____	_____	_____
1700	520	40992 WATER UTILITY 16" SOLID SLEEVE	1.000 EA	_____	_____	_____	_____
1710	520	41004 4" GATE VALVE & BOX	2.000 EA	_____	_____	_____	_____
1720	520	41006 6" GATE VALVE & BOX	6.000 EA	_____	_____	_____	_____
1730	520	41008 8" GATE VALVE & BOX	4.000 EA	_____	_____	_____	_____
1740	520	41012 12" GATE VALVE & BOX	4.000 EA	_____	_____	_____	_____
1750	520	41018 16" BUTTERFLY VALVE & BOX	12.000 EA	_____	_____	_____	_____
1760	520	41820 FIRE HYDRANT	6.000 EA	_____	_____	_____	_____
1770	520	41845 2" AIR RELEASE VALVE & MANHOLE	8.000 EA	_____	_____	_____	_____
1780	520	41970 5/8" WATER METER & BOX	2.000 EA	_____	_____	_____	_____
1790	520	42080 8" SAN. SEWER PIPE	343.000 LF	_____	_____	_____	_____
1800	520	42755 SANITARY SEWER MANHOLE	22.000 LF	_____	_____	_____	_____
1810	520	42758 MANHOLE FRAME & COVER WF & C-1	4.000 EA	_____	_____	_____	_____

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Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
1820	510	42765 ADJUST EXIST FRAME & COVER	6.000 EA				
1830	520	42771 RECONSTRUCT EXISTING SANITARY MANHOLE	24.000 LF				
1840	ATTD	45505 CONNECT TO EXIST. A/C PIPE	2.000 EA				
1850	ATTD	45506 REMOVE EXIST. A/C PIPE	189.000 LF				
1860	701	50108 SIGN PANEL	621.000 SF				
1870	700	50430 SIGN POST STP-1, 2", 14 GAUGE	487.000 LF				
1880	700	50432 SIGN POST STP-1, 2 3/16", 10 GAUGE	24.000 LF				
1890	700	50434 SIGN POST STP-1, 2 1/2", 10 GAUGE	73.000 LF				
1900	700	50436 SIGN POST STP-1, 2 1/2", 12 GAUGE	402.000 LF				
1910	700	50487 CONCRETE SIGN FOUNDATION STP-1, TYPE C	5.000 EA				
1920	700	50488 CONCRETE SIGN FOUNDATION STP-1, TYPE D	39.000 EA				
1930	700	50489 CONCRETE SIGN FOUNDATION STP-1, TYPE E	31.000 EA				

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Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
1940	700 ATTD	50902 TRAFFIC SIGN RELOCATE EXISTING GROUND MOUNTED SIGN PANEL	4.000 EA	_____	. _____	_____	. _____
1950	700 ATTD	50902 TRAFFIC SIGN RELOCATE EXISTING GROUND MOUNTED SIGN STRUCTURE & SIGN PANEL	2.000 EA	_____	. _____	_____	. _____
1960	700 ATTD	50902 TRAFFIC SIGN REMOVE & DISPOSE EXISTING GROUND MOUNTED SIGN STRUCTURE & SIGN PANEL	1.000 EA	_____	. _____	_____	. _____
1970	700 ATTD	50902 TRAFFIC SIGN REMOVE & SALVAGE GROUND MOUNTED SIGN STRUCTURE & SIGN PANEL	1.000 EA	_____	. _____	_____	. _____
1980	703	51184 TRAFFIC SIGNAL HEAD SECTION 12" LED	70.000 EA	_____	. _____	_____	. _____
1990	703	51199 PEDESTRIAN ACTUATION PA-3	4.000 EA	_____	. _____	_____	. _____
2000	700	51210 PEDESTAL POLE PF-2 10'	4.000 EA	_____	. _____	_____	. _____
2010	700	51238 CONCRETE FOUNDATION SIGNAL POLE PF-8	88.000 CY	_____	. _____	_____	. _____
2020	700	51240 CONCRETE FOUNDATION PF-2	4.000 EA	_____	. _____	_____	. _____
2030	700	51243 CONC FOUNDATION CF-5	2.000 EA	_____	. _____	_____	. _____

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Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
2040	700	51246 CONCRETE FOUND. CF-2	2.000 EA				
2050	700	51479 SIGNAL MAST ARM POLE MP-3, TYPE D	5.000 EA				
2060	700	51480 SIGNAL MAST ARM POLE MP-3, TYPE E1	3.000 EA				
2070	700	51485 MAST ARM 30'	1.000 EA				
2080	700	51487 MAST ARM 49'	4.000 EA				
2090	700	51488 MAST ARM 60'	2.000 EA				
2100	700	51489 MAST ARM 65'	1.000 EA				
2110	703	51523 EVP DETECTION SYSTEM 3-WAY	2.000 EA				
2120	703	51525 EVP DETECTOR CABLE	1,500.000 LF				
2130	703	51540 LOOP DETECTOR AMPLIFIER	19.000 EA				
2140	700	51598 8/3 CONDUCTOR CABLE	60.000 LF				
2150	700	51600 14/2 CONDUCTOR CABLE	1,650.000 LF				
2160	700	51602 14/4 CONDUCTOR CABLE	3,910.000 LF				
2170	700	51607 14/7 CONDUCTOR CABLE	1,090.000 LF				

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2180	700	51615 14/1 ENCLOSED COND. CABLE	5,590.000 LF	_____	_____	_____	_____
2190	700	51700 14/2 CONDUCTOR CABLE SHIELDED	12,070.000 LF	_____	_____	_____	_____
2200	703	51830 HANGER ASSEMBLY SM-3, ONE WAY	21.000 EA	_____	_____	_____	_____
2210	703	51834 HANGER ASSEMBLY SMB-2, ONE WAY	4.000 EA	_____	_____	_____	_____
2220	703	51838 HANGER ASSEMBLY SMB-3, ONE WAY	4.000 EA	_____	_____	_____	_____
2230	703	51912 LOOP SAW CUT 3/8"	1,850.000 LF	_____	_____	_____	_____
2240	703	51913 LOOP SAWCUT 5/8"	250.000 LF	_____	_____	_____	_____
2250	703	51933 REMOVE EXISTING POLE	6.000 EA	_____	_____	_____	_____
2260	703	51934 REMOVE EXISTING FOUNDATION	8.000 EA	_____	_____	_____	_____
2270	703	51935 REMOVE EXISTING SIGNAL HEAD	24.000 EA	_____	_____	_____	_____
2280	703	51936 REMOVE EXISTING CONTROLLER	2.000 EA	_____	_____	_____	_____
2290	703	51937 REMOVE EXISTING MANHOLE/JUNCTION BOX	21.000 EA	_____	_____	_____	_____

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2300	512	51963 REMOVE EXISTING EMERGENCY PREEMPTION DETECTORS	6.000 EA				
2310	703	51993 UNINTERRUPTIBLE POWER SUPPLY TYPE 1	2.000 EA				
2320	703	51995 UNINTERRUPTIBLE POWER SUPPLY BATTERY PACK	2.000 EA				
2330	703	51997 UNINTERRUPTIBLE POWER SUPPLY CABINET DETACHED	2.000 EA				
2340	703 ATTD	52002 TRAFFIC SIGNALIZATION ACCESSIBLE PEDESTRIAN SYSTEM PUSHBUTTON STATIONS	8.000 EA				
2350	ATTD	52002 TRAFFIC SIGNALIZATION ATC CABINET - 5-DOOR CONFIGURATION	2.000 EA				
2360	705	52002 TRAFFIC SIGNALIZATION LUMINAIRE ARM 18'	8.000 EA				
2370	ATTD	52002 TRAFFIC SIGNALIZATION McCAIN ATC 2070 CONTROLLER WITH D-4 FIRMWARE	2.000 EA				
2380	700	52002 TRAFFIC SIGNALIZATION MODIFY SIGNAL	2.000 EA				
2390	703 ATTD	52002 TRAFFIC SIGNALIZATION MOUNTING EXTENDER	3.000 EA				

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2400	700	52002 TRAFFIC SIGNALIZATION TEMPORARY TRAFFIC CONTROL SIGNAL	2.000 EA				
2405	703	52404 PEDESTRIAN SIGNAL HEAD SP-9	8.000 EA				
2410	700	52425 ELECTRICAL SERVICE SE-3 TYPE B	2.000 EA				
2420	704	54020 TYPE A PVMT LINE MRKG 4"	558.000 LF				
2430	704	54032 TYPE B CLASS I PVMT LINE MRKG 4"	19,355.000 LF				
2440	704	54034 TYPE B CLASS I PVMT LINE MRKG 6"	140.000 LF				
2450	704	54037 TYPE B CLASS I PVMT LINE MRKG 8"	600.000 LF				
2460	704	54042 TYPE B CLASS I PAVE. LINE MARKING 24"	1,170.000 LF				
2470	704	54045 TYPE B CLASS II PAVE. LINE MARKING 8"	160.000 LF				
2480	512	54105 ERADICATE EXIST. LINEAR PVMT MARKING	25,615.000 LF				
2490	512	54240 TEMP. PAVE. MARKER 1 WAY	80.000 EA				
2500	512	54242 TEMP. PAVE. MARKER 2 WAY	10.000 EA				

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2510	704	54262 PVMT MESSAGE, 8', CHARACTER, TY. B, CL. II	6.000 EA	_____	_____	_____	_____
2520	704	54393 PVMT MESSAGE MARK. ONLY TY B CL II	4.000 EA	_____	_____	_____	_____
2530	512	54443 TEMP. PVMT SYMBOL MRKG THRU ARROW TY. A	5.000 EA	_____	_____	_____	_____
2540	512	54457 TEMP. PVMT SYMBOL MRKG SINGLE TURN ARROW TY. A	32.000 EA	_____	_____	_____	_____
2550	512	54512 TYPE D, CLASS II TEMP. PVMT MRKG 4"	24,664.000 LF	_____	_____	_____	_____
2560	512	54516 TYPE D,CLASS II TEMP. PVMT MRKG 8"	1,240.000 LF	_____	_____	_____	_____
2570	512	54524 TYPE D, CLASS II TEMP. PVMT MRKG 24"	321.000 LF	_____	_____	_____	_____
2580	704	54575 PVMT SYMB MRKG SGL TURN ARROW TY B, CL II	39.000 EA	_____	_____	_____	_____
2590	704	54578 PVMT SYMB MRKG DBL TURN ARROW THRU/LT OR RT TY B, CL II	20.000 EA	_____	_____	_____	_____
2600	704	54582 PVMT SYMB MRKG TRPL TURN ARROW TY B, CL II	1.000 EA	_____	_____	_____	_____
2610	704	54622 PVMT SYMB MRKG YIELD 1'x1.5' TY B, CL II	80.000 EA	_____	_____	_____	_____

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2620	704	54652 PVMT SYMB MRKG BICYCLE THRU ARROW TY B CL II	4.000 EA	_____	_____	_____	_____
2630	704	54660 PVMT SYMB MRKG HELMETED BICYCLIST TY B CL II	4.000 EA	_____	_____	_____	_____
2640	700	55060 6 CONDUCTOR CABLE	15,000.000 LF	_____	_____	_____	_____
2650	700	55080 8 CONDUCTOR CABLE	3,210.000 LF	_____	_____	_____	_____
2660	700	55126 CONDUCTOR CABLE, NO. 8 EGC	5,450.000 LF	_____	_____	_____	_____
2670	700	55140 CONCRETE FOUNDATION LF-1 TY. A	23.000 EA	_____	_____	_____	_____
2680	700	55343 ELECT. SERVICE SE-6	2.000 EA	_____	_____	_____	_____
2690	705	55352 CONTROL CENTER CCW-1 TYPE C	2.000 EA	_____	_____	_____	_____
2700	705	55505 LUMINAIRE CONVENTIONAL DECORATIVE LED 52 WATT	34.000 EA	_____	_____	_____	_____
2710	705	55505 LUMINAIRE CONVENTIONAL ROADWAY LED 210 WATT	23.000 EA	_____	_____	_____	_____
2720	705	55505 LUMINAIRE CONVENTIONAL SIGNAL POLE LED 210 WATT	8.000 EA	_____	_____	_____	_____
2730	700	55587 JUNCTION BOX JB-S2	48.000 EA	_____	_____	_____	_____

Proposal ID: C0000100921C01 Oversight/State Project No.: (NFO) 0612-047-631, C501
Order No.: A72 Federal Project No.: STP-5A03 (684)

Contractor: _____

SECTION: 0001 REGULAR BID ITEMS
Cat Alt Set ID: Cat Alt Mbr ID:

Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
2740	700	55588 JUNCTION BOX JB-S3	2.000 EA	_____	_____	_____	_____
2750	700	56014 ELECT. SER. GRD. ELECTRODE 10'	20.000 EA	_____	_____	_____	_____
2760	700	56021 1" PVC CONDUIT	170.000 LF	_____	_____	_____	_____
2770	700	56050 BORED CONDUIT 2"	1,850.000 LF	_____	_____	_____	_____
2780	700	56051 BORED CONDUIT 3"	1,440.000 LF	_____	_____	_____	_____
2790	700	56053 2" PVC CONDUIT	9,550.000 LF	_____	_____	_____	_____
2800	700	56054 3" PVC CONDUIT	280.000 LF	_____	_____	_____	_____
2810	700	56200 TRENCH EXCAVATION ECI-1	9,940.000 LF	_____	_____	_____	_____
2820	700	56205 TEST BORE	8.000 EA	_____	_____	_____	_____
2840	700	59000 LIGHTING DECORATIVE CONCRETE FOUNDATION	34.000 EA	_____	_____	_____	_____
2850	700	59000 LIGHTING DECORATIVE LIGHT POLE	34.000 EA	_____	_____	_____	_____
2860	700	59000 LIGHTING POLE LP- 40' - 18' ARM	23.000 EA	_____	_____	_____	_____
2870	516	70000 DEMO. OF BLDG. PARCEL 001 D16	LUMP SUM	LUMP SUM		_____	_____

Revised July 02, 2019

Proposal ID: C0000100921C01 Oversight/State Project No.: (NFO) 0612-047-631, C501
Order No.: A72 Federal Project No.: STP-5A03 (684)

Contractor: _____

SECTION: 0001 REGULAR BID ITEMS

Cat Alt Set ID: Cat Alt Mbr ID:

Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
2880	516	70000 DEMO. OF BLDG. PARCEL 002 D17, D900, D908, D911	LUMP SUM	LUMP SUM		_____	_____
2890	516	70000 DEMO. OF BLDG. PARCEL 002 D8	LUMP SUM	LUMP SUM		_____	_____
2900	516	70000 DEMO. OF BLDG. PARCEL 003 D701	LUMP SUM	LUMP SUM		_____	_____
2910	516	70000 DEMO. OF BLDG. PARCEL 005 D2	LUMP SUM	LUMP SUM		_____	_____
2920	516	70000 DEMO. OF BLDG. PARCEL 006 D10	LUMP SUM	LUMP SUM		_____	_____
2930	516	70000 DEMO. OF BLDG. PARCEL 006 D5	LUMP SUM	LUMP SUM		_____	_____
2940	516	70000 DEMO. OF BLDG. PARCEL 007 D7	LUMP SUM	LUMP SUM		_____	_____
2950	516	70000 DEMO. OF BLDG. PARCEL 007 D904, D903, D902 D 15	LUMP SUM	LUMP SUM		_____	_____
2960	516	70000 DEMO. OF BLDG. PARCEL 009 D6	LUMP SUM	LUMP SUM		_____	_____
2970	516	70000 DEMO. OF BLDG. PARCEL 009 D703	LUMP SUM	LUMP SUM		_____	_____
2980	516	70000 DEMO. OF BLDG. PARCEL 009 D704	LUMP SUM	LUMP SUM		_____	_____

Proposal ID: C0000100921C01 Oversight/State Project No.: (NFO) 0612-047-631, C501
Order No.: A72 Federal Project No.: STP-5A03 (684)

Contractor: _____

SECTION: 0001 REGULAR BID ITEMS

Cat Alt Set ID: Cat Alt Mbr ID:

Proposal Line Number	Spec No.	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
2990	516	70000 DEMO. OF BLDG. PARCEL 011 D910, D909, D901, D12	LUMP SUM	LUMP SUM		_____	_____
3000	516	70000 DEMO. OF BLDG. PARCEL 014 D13	LUMP SUM	LUMP SUM		_____	_____
3010	516	70000 DEMO. OF BLDG. PARCEL 014 D14	LUMP SUM	LUMP SUM		_____	_____
3020	516	70000 DEMO. OF BLDG. PARCEL 014 D4	LUMP SUM	LUMP SUM		_____	_____
3030	516	70200 CLEARING PARCEL NO. 002	LUMP SUM	LUMP SUM		_____	_____
3040	516	70200 CLEARING PARCEL NO. 007	LUMP SUM	LUMP SUM		_____	_____
3050	516	70200 CLEARING PARCEL NO. 011	LUMP SUM	LUMP SUM		_____	_____
		Section: 0001		Total:		_____	_____

Total Bid: _____.____

Revised July 02, 2019

Determination of Major Items

Item Number	Item Description
40161	16" DI WATER MAIN

Bid Items Eligible For Fuel Adjustment

Instructions: This form shall be completed in accordance with the Special Provision for Optional Adjustment for Fuel. If you choose to have Fuel Adjustment applied to any of the items listed below, write the word "Yes" in the "OPTION" column beside the item. The form must be signed, dated, and submitted to the Contract Engineer within the timeframe required in the Special Provision.

SECTION: 0001 REGULAR BID ITEMS

Item Number	Item Description	Fuel Factor gal/unit	Option
00120	REGULAR EXCAVATION	0.290	_____
00141	BORROW EXCAVATION MIN. CBR-10	0.290	_____
00525	CONCRETE CLASS A3 MISC.	1.892	_____
09150	EROSION CONTROL STONE CLASS I, EC-1	0.600	_____
10065	AGGR. MATL. NO. 1	0.600	_____
10123	AGGR. BASE MATL. TY. I NO. 21A	0.600	_____
10128	AGGR. BASE MATL. TY. I NO. 21B	0.600	_____
10610	ASPHALT CONCRETE TY. IM-19.0A	3.500	_____
10628	FLEXIBLE PAVEMENT PLANING 0" - 2"	0.071	_____
10635	ASPHALT CONC.TY. SM-9.5A	3.500	_____
10636	ASPHALT CONC.TY. SM-9.5D	3.500	_____
10642	ASPHALT CONCRETE TY. BM-25.0A	3.500	_____
14260	CRUSHER RUN AGGREGATE NO. 25 OR 26	0.400	_____
24420	DEMOLITION OF PAVEMENT RIGID	0.200	_____
24430	DEMOLITION OF PAVEMENT FLEXIBLE	0.200	_____
26127	DRY RIPRAP CL.I 26"	4.000	_____
27430	SILTATION CONTROL EXCAVATION	0.290	_____
27545	STORM WATER MANAGEMENT BASIN EXCAVATION	0.290	_____

Date: _____

Signature: _____

_____
(Firm or Corporation)

_____
(Vendor No.)

Bid Items Eligible For Steel Price Adjustment

Instructions: This form shall be completed in accordance with the Special Provision. If you choose to have Steel Price Adjustment applied to any of the items listed below, write the word "Yes" in the "OPTION" column beside the item. The form must be signed, dated, and submitted to the Contract Engineer within the timeframe required in the Special Provision.

SECTION: 0001 REGULAR BID ITEMS

Item Number	Item Description	Option
13280	GUARDRAIL GR-MGS1	_____
13286	GUARDRAIL TERMINAL GR-MGS2	_____
13288	GUARDRAIL HEIGHT TRANSITION GR-MGS4	_____
40161	16" DI WATER MAIN	_____
50430	SIGN POST STP-1, 2", 14 GAUGE	_____
50432	SIGN POST STP-1, 2 3/16", 10 GAUGE	_____
50434	SIGN POST STP-1, 2 1/2", 10 GAUGE	_____
50436	SIGN POST STP-1, 2 1/2", 12 GAUGE	_____
50902	TRAFFIC SIGN RELOCATE EXISTING GROUND MOUNTED SIGN PANEL	_____
50902	TRAFFIC SIGN REMOVE & SALVAGE GROUND MOUNTED SIGN STRUCTURE & SIGN PANEL	_____
50902	TRAFFIC SIGN REMOVE & DISPOSE EXISTING GROUND MOUNTED SIGN STRUCTURE & SIGN PANEL	_____
50902	TRAFFIC SIGN RELOCATE EXISTING GROUND MOUNTED SIGN STRUCTURE & SIGN PANEL	_____
51479	SIGNAL MAST ARM POLE MP-3, TYPE D	_____
51480	SIGNAL MAST ARM POLE MP-3, TYPE E1	_____
51485	MAST ARM 30'	_____
51487	MAST ARM 49'	_____
51488	MAST ARM 60'	_____
51489	MAST ARM 65'	_____

Date: _____

Signature: _____

_____
(Firm or Corporation)

_____
(Vendor No.)

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

Form C-111
Rev. 2-15-11

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
MINIMUM DBE REQUIREMENTS

PROJECT NO: (NFO)0612-047-631,C501;0658-047-R97,M501
FHWA NO: STP-5A03(684)

*****I N S T R U C T I O N S*****

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.

SECTION I:

DBE REQUIREMENT 17%

SECTION II:

PERCENT ATTAINED BY BIDDER _____ %

NAME(s) AND CERTIFICATION NO. OF DBE(s) TO BE USED	USED AS SUBCONTR. (S) MFG. (M) SUPPLIER (SP) HAULER (H)	**TYPE OF WORK & ITEM NO(s)**	**AMT. 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

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

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

Project No.: (NFO)0612-047-631,C501;0658-047-R97,M501

FHWA NO: STP-5A03(684)

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) working 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 two 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: _____

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

TABLE OF CONTENTS FOR PROVISIONS

FORMS and SCHEDULE OF ITEMS PRECEDE SPCNs, SPs and SUPPLEMENTAL SPECS.

Revised July 02, 2019

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

cn100-000026-03

GENERAL PROJECT REQUIREMENTS, SUPPLEMENTAL SPECIFICATIONS (SSs), SPECIAL PROVISIONS (SPs) AND SPECIAL PROVISION COPIED NOTES (SPCNs)

This project shall be constructed according to: the plans; the *Virginia Department of Transportation Road and Bridge Specifications*, dated 2016 and the Supplement thereto, dated 2019; the *Virginia Department of Transportation Road and Bridge Standards*, dated 2016; the 2011 edition of the *Virginia Work Area Protection Manual with Revision Number 1* incorporated, dated April 1, 2015; the 2009 edition of the *MUTCD with Revision Numbers 1 and 2* incorporated, dated May 2012; and the 2011 edition of the *Virginia Supplement to the MUTCD with Revision Number 1* dated September 30, 2013; and the Supplemental Specifications, Special Provisions and Special Provision Copied Notes in this contract. The status in the Contract of each of these documents will be according to Section 105.12 of the Specifications.

Special Provision Copied Notes in this contract are designated with "(SPCN)" after the date.

The information at the top and left of each Special Provision Copied Note in this contract is file reference information for Department use only. The information in the upper left corner above the title of each Supplemental Specification and Special Provision in this contract is file reference information for Department use only.

The Department has identified the system of measurement to be used on this particular project as imperial. Any imperial unit of measure in this contract with an accompanying expression in a metric unit will be referred to hereinafter as a "dual unit" measurement. 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" of measure appears in this project, only the imperial unit will apply. The accompanying metric unit shown is not to be considered interchangeable and mathematically convertible to the imperial unit and shall not be used as an alternate or conflicting measurement.

1-15-19 (SPCN)

cn102-000510-00

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

(g) **Compliance with the Cargo Preference Act**

As required by 46 CFR 381.7 (a)-(b) "Use of United States-flag vessels, when materials or equipment are acquired for a specific highway project, the Contractor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States. a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

3. To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

This requirement will not be applicable when materials or equipment used on the Project are obtained from the existing inventories of suppliers and contractors; they are only applicable when the materials or equipment are acquired for the specific project, and have been transported by ocean vessel.

12-14-15; Reissued 7-12-16 (SPCN)

cn315-000100-00 **SECTION 315.05**(c) **PLACING AND FINISHING** is modified by replacing the third paragraph with the following:

> The longitudinal joint in one layer shall offset that in the layer immediately below by approximately 6 inches or more. The joint in the wearing surface shall be offset 6 inches to 12 inches from the centerline of the pavement if the roadway comprises two traffic lanes. The joint shall be offset approximately 6 inches from the lane lines if the roadway is more than two lanes in width. The longitudinal joint shall be uniform in appearance. On all roads except secondary routes, if the offset for the longitudinal joint varies from a straight line more than 2 inches in 50 feet on tangent alignment, or from a true arc more than 2 inches in 50 feet on curved alignment, the Contractor shall seal the joint using a water-proof sealer at no cost to the Department. The Contractor shall recommend a sealant and installation procedure to the Engineer for approval before proceeding. On all roads except secondary routes, if the offset for the longitudinal joint varies from a straight line more than 3 inches in 50 feet on tangent alignment, or from a true arc more than 3 inches in 50 feet on curved alignment, the Engineer may reject the paving. The Engineer will not require offsetting layers when adjoining lanes are paved in echelon and the rolling of both lanes occurs within 15 minutes after laydown.

1-18-17 (SPCN)

cn512-000310-00 **POLICE PATROLS** — The Contractor is advised that the Department will use Police patrols in construction work zones when traffic flow problems are anticipated, to enhance the safety of both the public and construction personnel, during the life of this contract.

4-25-88c; Reissued 7-12-16 (SPCN) [formerly cn512-030100-00]

cn518-000210-00 **SECTION 518.02**(a) **NUMBER OF TRAINEES** is amended to replace the first sentence of the first paragraph with the following:

> The number of trainees for this contract shall be ***4*****.**

7-12-16 (SPCN)

DENSITY TESTING OF SUBBASE OR AGGREGATE BASE — Sections 308 and 309 of the Specifications are amended as follows:

SECTION 308—SUBBASE COURSE is amended as follows:

Section 308.03—Procedures is amended by replacing the last paragraph with the following:

The Department will perform field density determinations with a portable nuclear field density testing device using the density control strip as specified in Section 304 and VTM-10, or by other approved methods as directed by the Engineer.

SECTION 309—AGGREGATE BASE COURSE is amended as follows:

Section 309.05—Density Requirements is amended by replacing the fifth paragraph with the following:

The base course will be tested in place for depth and density. The Department will perform field density determinations with a portable nuclear field density testing device, using a density control strip as specified in Section 304 and VTM-10 as directed by the Engineer.

2-12-18 (SPCN)

UNIFORMED FLAGGERS - The Contractor shall utilize off-duty uniformed police officers for control of traffic through signalized intersections during periods when the control equipment is non-operational. It is expressly understood that the work under this pay item exceeds the requirements and duties typically associated with flagger service. Off duty police officers will not be required to have VDOT flagger certification to perform this work. Police assisted flagger service will be measured and paid for in hours of in duty service. This price will be full compensation for furnishing uniform officers and all associated costs.

Payment will be made under:

Pay Item	**Pay Unit**
Uniformed Flaggers	Hours

9-29-08; Reissued 7-12-16_(SPCN)

SECTION 512—MAINTAINING TRAFFIC is amended as follows:

Section 512.03(h)1 **Guardrail barrier service and terminal treatments** is amended to replace the last sentence with the following:

All end terminals used in conjunction with guardrail barrier service shall be from manufacturers on the Materials Division's Approved Products List No. 12 and the VDOT NCHRP 350 or MASH approved list linked in List No. 12. New Guardrail Terminals (GR-7 & GR-9) shall be permanently identified in a location readily visible for inspection that is not susceptible to damage by stamping or engraving. The identification shall include Manufacturer, Date and Site of Manufacture, and Model Number.

Section 512.03(i) **Impact Attenuator Service**, the first paragraph, is amended to replace the last sentence with the following:

New impact attenuators shall be permanently identified in a location readily visible for inspection that is not susceptible to damage by stamping or engraving. The identification shall include Manufacturer, Date and Site of Manufacture, and Model Number.

Section 512.03(r) **Truck-mounted or trailer-mounted attenuators**, the second paragraph, is amended to replace the last sentence with the following:

New truck-mounted and trailer-mounted attenuators shall be permanently identified in a location readily visible for inspection that is not susceptible to damage by stamping or engraving. The identification shall include Manufacturer, Date and Site of Manufacture, and Model Number.

3-18-16; Reissued 7-12-16 (SPCN)

CONTRACTOR MAINTENANCE OF TEMPORARY MARKINGS – The second, third, and fourth paragraphs of Section 512.03(k)3 of the Specifications will also apply to Sections 512.03(k)1 and 512.03(k)2 of the Specifications.

6-13-17 (SPCN)

ABATEMENT OF ASBESTOS CONTAINING MATERIALS - The Contractor shall abate the Asbestos Containing Materials (ACM) identified in the Abatement Table below in accordance with the Special Provision for Asbestos Removal for Road Construction Demolition Projects.

Abatement				
Structure Number	**NESHAP Category**	**Description**	**Condition**	**Quantity**

11-5-18 (SPCN)

cn108-040110-01 **EARLY COMPLETION INCENTIVE/DISINCENTIVE**

Early Completion is defined as completing all of the Work as detailed in the Plans and Specifications to the Department's satisfaction for Final Acceptance, including, but not limited to, punch list, seeding, landscaping, and signal burn-in before the Completion Date.

The Department will pay an incentive of **$3375** for each Calendar Day the Contractor completes the Work prior to the Completion Date. The incentive is capped at **$273,375**.

If the Contractor does not complete the Work on or before the Completion Date, the Department will assess a disincentive of **$3375** per Calendar Day after the Completion Date, including Sundays and Holidays, that the Contractor does not complete the Work. The disincentive is capped at **$546,750.**

The disincentive will be assessed, not as a penalty, but as agreed compensation for damages resulting from the Contractor's delay in completion of construction operations on the Department and road users. The disincentive amount is calculated based on Department related traffic control and maintenance costs, detour costs, or daily road user costs, as applicable.

The Contractor waives any defense as to the validity of any disincentives stated in the Contract, the Specifications, or this Special Provision, and assessed by the Department against the Contractor on the grounds that such disincentives are void as penalties or are not reasonably related to actual damages.

1-17-17 (SPCN)

AGGREGATE MATERIAL NO. 57 will be measured in tons and will be paid for at the Contract ton price. This price shall include furnishing, placing, and compacting aggregate material. Aggregate shall be placed in accordance with Section 302 of the Specifications.

Payment will be made under:

Pay Item	**Pay Unit**
Aggregate Material No. 57	Ton

1-29-19 (SPCN)

SUBSTANTIAL COMPLETION INCENTIVE

Substantial Completion is defined as completing all of the work required to open all Olde Town Road lanes to traffic in final configuration including, but not limited to, permanent striping and right turn lane as shown on the Plans and in accordance with the Specifications.

The Department will pay a lump sum incentive of **$6,874** to the Contractor if all the Olde Towne Road work is completed and accepted on or before December 1, 2020.

1-25-19 (SPCN)

SP0F0-000100-00

Reissued July 12, 2016

PREDETERMINED MINIMUM WAGE RATES

General Decision Number: VA190195 01/04/2019 VA195

Superseded General Decision Number: VA20180206

State: Virginia

Construction Type: Highway

Counties: Chesapeake*, Gloucester, Hampton*, James*, Mathews, Newport News*, Norfolk*, Poquoson*, Portsmouth*, Suffolk*, Virginia Beach* and York Counties in Virginia.

*including the independent cities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, Poquoson, Suffolk and Virginia Beach

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: Under Executive Order (EO) 13658, an hourly minimum wage of $10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was 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 $10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019

ELEC0080-011 06/01/2018

	Rates	Fringes
ELECTRICIAN, Includes Traffic Signalization	$ 27.94	12.56%+6.95

SUVA2016-080 07/02/2018

	Rates	Fringes
CARPENTER, Includes Form Work	$ 20.21	0.00
CEMENT MASON/CONCRETE FINISHER	$ 16.03	0.00
IRONWORKER, REINFORCING	$ 24.03	0.00
IRONWORKER, STRUCTURAL	$ 27.38	0.00
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 18.62	2.62
LABORER: Common or General	$ 14.85	0.00
LABORER: Grade Checker	$ 14.88	0.00
LABORER: Pipelayer	$ 17.76	0.00
LABORER: Power Tool Operator	$ 15.69	0.00
OPERATOR: Backhoe/Excavator/Trackhoe	$ 20.74	0.00
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 19.16	4.45
OPERATOR: Broom/Sweeper	$ 17.40	2.01
OPERATOR: Crane	$ 24.42	4.69
OPERATOR: Drill	$ 24.66	0.00
OPERATOR: Gradall	$ 19.26	0.00
OPERATOR: Grader/Blade	$ 23.21	0.00
OPERATOR: Hydroseeder	$ 16.64	0.00
OPERATOR: Loader	$ 17.86	0.00

OPERATOR: Mechanic	$ 21.43	0.00
OPERATOR: Milling Machine	$ 23.12	3.60
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 20.12	3.81
OPERATOR: Piledriver	$ 21.83	4.08
OPERATOR: Roller	$ 21.32	0.00
OPERATOR: Screed	$ 22.13	4.89
OPERATOR: Asphalt Spreader and Distributor	$ 19.09	1.81
OPERATOR: Bulldozer, Including Utility	$ 19.43	0.00
TRAFFIC CONTROL: Flagger	$ 12.89	0.00
TRUCK DRIVER : HEAVY 7CY & UNDER	$ 15.53	0.00
TRUCK DRIVER: 1/Single Axle Truck	$ 18.26	4.88
TRUCK DRIVER: Fuel and Lubricant Service	$ 18.25	0.00
TRUCK DRIVER: HEAVY OVER 7 CY	$ 16.98	0.00
TRUCK DRIVER: MULTI AXLE	$ 18.77	4.63

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

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.

END OF GENERAL DECISION

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

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

SP0F0-000130-00

May 1, 2012; Reissued July 12, 2016
FHWA-1273 (Electronic Version)

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

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FHWA-1273 – Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

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

(III) 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.

3. 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.

SP0F0-000150-01 July 17, 2017

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 covered 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 complied 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 m 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 thought 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, sexual orientation, gender identity, or national 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

Economic Area	Goal (Percent)
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 lsle 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.

SP102-000120-00

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
NON-DISCRIMINATION IN EMPLOYMENT AND CONTRACTING PRACTICES

January 10, 2017

I. Description

This Special Provision implements Executive Order 61, ensuring equal opportunity and access for all Virginians in state contracting and public services.

II. Non-Discrimination

The Contractor shall maintain a non-discrimination policy, which prohibits discrimination by the Contractor on the basis of race, sex, color, national origin, religion, sexual orientation, gender identity, age, political affiliation, disability, or veteran status. This policy shall be followed in all employment practices, subcontracting practices, and delivery of goods or services. The Contractor shall also include this requirement in all subcontracts valued over $10,000.

III. Measurement and Payment

Conformance with this Special Provision will not be measured for individual payment, and will be considered incidental to the Work.

SP102-000510-02

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
USE OF DOMESTIC MATERIAL

December 19, 2018

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 (including miscellaneous 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. This applies to any iron or steel item brought onto the project, regardless of the percentage of iron or steel that exists in the pay item or in the final form they take; however, electrical components (i.e., combination products such as signal controllers and similar products which are only sold as a unit) are not subject to Buy America provisions if the product as purchased by the Contractor is less than 50% steel and iron. "Produced in the United States of America" means all manufacturing processes occur in one of the 50 United 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). 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 to which the coating is applied. Non-iron and non-steel materials used in the coating process do not need to be produced in the United States as long as the application of the coating occurred in the United States. 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 processes take place.

For the purposes of this provision, all steel or iron material meeting the criteria as produced in the United States of America will be considered as "Domestic Material." All iron and steel items not meeting the criteria as produced in the United States of America will be considered "Non-Domestic Material."

A minimal amount of "Non-Domestic" steel or iron material may be incorporated in the permanent work on a federal-aid contract provided that the cost of such materials or products does not exceed one-tenth of one percent of the Contract amount or $2500, whichever is greater. The cost of the "Non-Domestic 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.

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.

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.

Any items containing foreign source steel or iron billet shall be considered “Non-Domestic Materials.” Additionally, iron or steel ingots or billets produced in the United States, but shipped outside the United States of America for any manufacturing process and returned for permanent use in a project shall be considered “Non-Domestic Materials.”

Waivers:

The process for receiving a waiver for Buy America provisions is identified in 23 CFR 635.410(c). The Contractor shall not anticipate that any Buy America provisions will be waived.

Certification of Compliance:

The Contractor is required to submit a Certificate of Compliance prior to incorporating any items containing iron or steel items into the project. This shall be accomplished by the Contractor submitting the Form C-76 Certificate of Compliance to the Department when the items are delivered to the project site. The Certification of Compliance will certify whether the items are considered “Domestic Material” or “Non-Domestic Material” as referenced in this Special Provision. The certificate must be signed and dated by the Prime Contractor’s Superintendent and include a Buy America Submittal Number. The Buy America Submittal Number is simply the Contractor’s project specific sequential numbering system that will allow the Contractor and Department to track the total number of certificates provided and the individual items containing iron or steel associated with each certificate.

Supporting Documentation:

Supporting documentation to demonstrate compliance with Buy America provisions (such as mill test reports manufacturer/supplier certifications, etc.) shall be organized by Buy America Submittal Number and maintained by the Contractor from the date of delivery until three years after project acceptance. The Contractor may maintain this documentation electronically or in paper format.

The Department or FHWA may review the Contractor’s supporting documentation to verify compliance with the Buy America provisions at any time. Supporting documentation shall be provided within five business days of the request. The burden of proof to meet the Buy America provisions rests with the Contractor. If the supporting documentation does not undeniably demonstrate to FHWA or the Department that the “Domestic Materials” identified in the Certificates of Compliance were produced in the United States of America, then the Department may deduct payment from moneys due the Contractor for the value of the iron and steel that did not meet the Buy America provisions.

SP105-000100-00

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
INFORMAL PARTNERING

January 14, 2008c; Reissued July 12, 2016

I. DECLARATION AND DESCRIPTION

The Virginia Department of Transportation (VDOT) is firmly committed to the formation of a partnering relationship with the Contractor, all subcontractors, suppliers, FHWA representatives; where appropriate, other federal agencies, local government officials, utilities representatives, law enforcement and public safety officials, consultants, and other stakeholders to effectively and efficiently manage and complete each construction or maintenance contract to the mutual and individual benefits and goals of all parties. Partnering is an approach to fulfilling this commitment where all parties to the contract, as well as individuals and entities associated with or otherwise affected by the contract, willingly agree to dedicate themselves by working together as a team to fulfill and complete the construction or maintenance contract in cost effective ways while preserving the highest standards of safety and quality called for by the Contract combined with the goals of on time/on budget completion. The approach must still allow for the fact that the members of the team share many common interests yet have differing authorities, interests, and objectives that must be accommodated for the project to be viewed as successful by all parties. It is recognized by VDOT that partnering is a relationship in which:

- Trust and open communications are encouraged and expected by all participants
- All parties move quickly to address and resolve issues at the lowest possible level by approaching problems from the perspectives and needs of all involved
- All parties have identified common goals and at the same time respect each other's individual goals and values
- Partners create an atmosphere conducive to cooperation and teamwork in finding better solutions to potential problems and issues at hand

II. INFORMAL PARTNERING STRUCTURE

It is the business intent of the Department that informal partnering will be required on this project, whereby the spirit and principles of partnering are practiced from onsite field personnel to executive level owners and employees. The VDOT Field Guide to Partnering available on the VDOT website http://www.virginiadot.org/business/resources/partnerfinalallowres.pdf will be the standard reference guide utilized to structure and guide partnering efforts. This guide will be systematically evaluated to incorporate better practices as our partnering efforts evolve. Of particular note is the need for effective and responsive communication between parties to the partnering relationship as emphasized in Section 105.03(d) of the Specifications.

Informal partnering need not require the services of a professional facilitator and may be conducted by the actual partnering participants themselves. Informal partnering, and more specifically the Partnering Charter, will not change the legal relationship of the parties to the Contract nor relieve either party from any of the terms of the Contract.

III. PROCEDURES

The following are general procedures for informal partnering and are not to be considered as inclusive or representative of procedural requirements for all projects. Participants shall consult the VDOT Field Guide for Partnering for assistance in developing specific guidelines to those efforts required for their individual projects.

Prior To Project Construction: At least 5 days prior to or in connection with the preconstruction conference the Contractor shall attend a conference with the Engineer at which time he and the Engineer shall discuss the extent of the informal partnering efforts required for the project, how these have been accommodated in the Contractor's bid and the identity of expectations and stakeholders associated with the project. Informal partnering efforts require the Department and the Contractor to mutually choose a single person from among their collective staffs, or a trained facilitator to be responsible for leading all parties through the VDOT Field Guide to Partnering and any subsequent partnering efforts.

Partnering Meetings During Project Construction: In informal partnering efforts the Contractor shall provide a location for regularly scheduled partnering meetings during the construction period. Such meetings will be scheduled as deemed necessary by either party. The Contractor and VDOT will require the attendance of their key decision makers, including subcontractors and suppliers. Both the Contractor and VDOT shall also encourage the attendance of affected utilities, concerned businesses, local government and civic leaders or officials, residents, and consultants, which may vary at different times during the life of the Contract The Department and the Contractor are to agree upon partnering invitees in advance of each meeting. Follow-up partnering workshops may be held throughout the duration of the project as deemed necessary by the Contractor and the Engineer.

IV. MEASUREMENT AND PAYMENT

Informal Partnering, because the extent to which certain partnering activities are pursed is at the Contractor's option, and may vary according to project complexity, work history between the parties, project duration, the Contractor's own unique methods, means, and schedule to execute and complete the work, etc.; will not be paid for as a separate bid item but all the costs associated with informal partnering efforts for the duration of the work shall be considered inclusive and incidental to the cost of other appropriate items.

SP105-001000-01

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
CONSTRUCTION RECORD DOCUMENTATION OF PERMANENT STORMWATER MANAGEMENT FACILITIES

February 1, 2018

I. Description

This specification covers the requirement for the Contractor to provide Construction Record Documents of permanent stormwater management facilities (SWMF).

II. Definitions

1. **Construction Record Documents (CRDs).** Documents that record and detail the construction and final state of a SWMF, including, but not limited to, construction record surveys, shop drawings, and all certifications required in the Contract for the specific type of SWMF.

2. **Licensed Professional.** A Professional Engineer, Land Surveyor, or Certified Landscape Architect licensed to practice in the Commonwealth of Virginia.

III. Requirements

The Contractor shall provide CRDs and other required information identified in Section IV for all permanent SWMF shown in the Plans. CRDs shall comply with Section 105.10(c) of the Specifications. All survey work and drawings shall comply with the VDOT Survey Manual and CADD Manual.

CRDs shall document the items summarized in Section IV for each type or category of SWMF on the Project. The CRDs shall be signed and sealed by a Licensed Professional.

A digitally signed and sealed copy of the CRDs and other required information for permanent SWMF on the Project shall be provided to the Engineer prior to Final Acceptance.

Deviations from the Plans that result in a decrease in the water quality or quantity volumes, or any change to the shape, size, location or elevations of the facility or its associated structures shall be shown on the CRDs for the Engineer's review. The Contractor shall be responsible for making any corrections to the SWMF required by the Engineer and updating the CRDs prior to Final Acceptance.

IV. CRDs for Permanent Stormwater Management Facilities

CRDs shall be provided for the following types of permanent SWMF's shown in the Plans:

1. **Constructed Wetlands, Wet Ponds, Extended Detention, and Dry Detention Basins.** These facilities require a construction record survey which shall include:

   A. Finished elevations, including pretreatment areas, basin floor elevations, bench elevations, pool elevations, and embankment contours and elevations.

   B. Horizontal location of basin footprint, spillway, outfall structure and outlet protection.

   C. Spillway dimensions and elevations.

      (1) Riser shape and elevations (crest and bottom).

      (2) Orifice shape, dimensions, and elevations.

(3) Weir shape, dimensions, and elevations.

(4) Barrel shape, dimensions, and elevations (inlet and outlet).

(5) Emergency spillway shape, dimensions, and elevations.

D. Baffle location, shape and dimensions.

2. **Infiltration, Bioretention, and Filtering Practices.** These facilities require a construction record survey which shall include:

A. Finished elevations including pretreatment areas, filter bed surface, berm and earthen spillway.

B. Horizontal location of observation wells, cleanouts, spillways and outfall.

C. Types of outlet and overflow structures, shape and elevations (crest and bottom).

D. Pipe barrel shape, dimensions, and elevations (inlet and outlet).

E. Underdrain pipe shape, size and invert elevations.

F. Underground storage structure type, shape, dimensions, and elevations.

3. **Manufactured Treatment Devices (MTDs) and Permeable Pavement.** Manufacturer's shop drawings shall be provided for all manufactured components of MTDs and Permeable Pavement. A statement for planting in conformance with the Plans shall be included. MTDs require a construction record survey which shall include:

A. Horizontal location of the facility and outfall.

B. Horizontal location of observation wells and cleanouts.

C. Rim and invert elevations of associated structures or access location.

V. **Measurement and Payment**

Construction Record Documents for permanent SWMF will be paid for at the Contract lump sum price. This price shall include performing the work described herein on all SWMF's shown on the Plans.

Payment will not be made until the Contractor provides the Engineer with CRDs, signed and sealed by a Licensed Professional, and they are accepted by the Engineer.

Payment will be made under:

Pay Item	Pay Unit
Construction Record Documents	Lump sum

~~**SP107-001110-00**~~

~~VIRGINIA DEPARTMENT OF TRANSPORTATION~~
~~SPECIAL PROVISION FOR~~
~~**CONTROLLED BLASTING**~~

~~April 11, 2017~~

~~I. DESCRIPTION~~

~~This project is in close proximity to private property, dwellings, water wells, springs, utilities, railroads, important karst features, or other structures. Important karst features include, but are not limited to, caves and open throated sinkholes. The Contractor shall explore other means of loosening or reducing the size of the excavated material without blasting to avoid damaging these structures or resources. If blasting is necessary, controlled blasting techniques shall be used during construction. The Contractor shall conduct an on-site review of the work involved and develop a plan of operations for performing the excavation work before prosecuting the work. The blasting plan shall be submitted to the Engineer at least two weeks before scheduled blasting.~~

~~II. BLASTING PROCEDURES~~

~~No blasting shall be performed within 100 feet of existing or new bridge foundations, railroad right-of-way, residential or commercial buildings, wells, other structures, or important karst features without the written approval of the Engineer. In the vicinity of proposed concrete construction, blasting shall be scheduled so that blasting operations are fully complete before placing concrete.~~

~~All blasting shall be performed in accordance with the current edition of the Virginia Statewide Fire Prevention Code. The Contractor shall use the services of an experienced powder man at all times. The drill hole diameter, hole spacing, and size of charge per hole shall be such as to afford satisfactory breakage with a minimum of vibration. A Construction Blasting Quantity and Distance Table shall be used to control the maximum quantity of explosives per shot for instantaneous firing, or per delay for delay firing in pounds. At no time shall the total size of any charge cause the particle velocity of the ground motion to exceed 0.20 inches per second when measured at the nearest structure or resource to a blast.~~

~~The Contractor shall maintain a daily log of the type, grade, and quantity of explosives, type of detonating cap, hole locations, depths, and minimum distances from the blasts to private property, dwellings, water wells, springs, utilities, other structures, and important karst features. A copy of this log shall be submitted to the Engineer at the end of each workday on which blasting activity has occurred.~~

~~III. SEISMIC MONITORING~~

~~The Contractor shall submit a comprehensive blasting plan detailing the blasting techniques to be used near property, structures, and important karst features to the Department. Seismic monitoring shall be performed by a qualified firm before performing construction operations near property, structures, and important karst features. Some of the initial blasts shall be monitored close to the blasting while others shall be monitored at property, structures, and important karst features; and the blasting plan shall be revised if the anticipated maximum particle velocity at those locations will exceed 0.20 inches per second.~~

The seismograph used shall have the ability to store digital data for documentation and inspection by, or submittal to, the Department. Further, the seismograph used shall be capable of accurately measuring frequency and amplitude in three planes: vertically, longitudinally, and transversely. These instruments must be dynamically calibrated and of such sensitivity that displacements as little as 0.0005 inches and frequencies of from 1 to 100 cycles per second may be read. The instruments must also be capable of adjustment so that the peak of maximum amplitude of vibration can be recorded on the tape or disk.

The Contractor shall cooperate and coordinate blasting activities with the owners of private property, dwellings, water wells, springs, utilities, structures, and resources.

IV. **Rock Slopes**

For use in this Special Provision, slopes shall be considered rock slopes when the height of final slope is 15 feet or greater, and 50% or more of the face of the final slope is rock, based on visual inspection.

All rock slopes with a slope of 1H:1V or steeper shall be pre-split by controlled blasting or non-explosive techniques in accordance with Section 303.04(a) of the Specifications and the preceding sections.

V. **Measurement and Payment**

The cost for explosives and blasting operations, alternative methods, monitoring, and recording and submitting daily blasting logs will be considered incidental to the cost of regular excavation and will not be measured for separate payment. The Contractor's failure to maintain and submit daily blasting logs as stipulated herein will result in withholding payment for regular excavation until such time that daily logs are provided.

SP107-001510-01

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
DBE REQUIREMENTS

August 18, 2017

SECTION 107 – LEGAL RESPONSIBILITIES of the Specifications is revised as follows:

Section 107.15 – Use of Small, Women-Owned, and Minority-Owned Business is renamed **Use of Disadvantaged Business Enterprises (DBEs)** and replaced with the following:

(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, sex, sexual orientation, gender identity, or national origin 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 Small Business and Supplier Diversity (DSBSD) 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 Small Business and Supplier Diversity website: *www.sbsd.virginia.gov.*

(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://www.virginiadot.org/business/resources/Civil_Rights/VDOT_DBE_Program_Plan.pdf

(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, sex, sexual orientation, gender identity, or national origin 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_DBE_Commitments.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 enjoinment 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 enjoinment 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**

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.

e. 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.

f. 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**.

g. 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**

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

    a. 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.

b. 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.

c. 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.

2. **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.

a. All Contractor requests to terminate, substitute, or replace a certified DBE shall be in writing, and shall include the following information:

(1) The date the Contractor determined the DBE to be unwilling, unable, or ineligible to perform.

(2) The projected date that the Contractor shall require a substitution or replacement DBE to commence work if consent is granted to the request.

(3) 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;

(4) A brief statement of the affected DBE's capacity and ability to perform the work as determined by the Contractor;

(5) 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;

(6) The current percentage of work completed on each bid item by the DBE;

(7) The total dollar amount currently paid per bid item for work performed by the DBE;

(8) 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;

(9) 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.

b. 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.

c. 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.

3. **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:

a. 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;

b. 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;

c. 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;

d. 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;

e. 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.
Firm X		(For Illustrative Purposes Only**)**
Truck 1	Owned by DBE	$100 per day
Truck 2	Owned by DBE	$100 per day
Firm Y		
Truck 1	Leased from DBE	$110 per day
Truck 2	Leased from DBE	$110 per day
Firm Z		
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.

f. 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.

4. **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 enjoinment 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 enjoinment 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.

(q) **Suspect Evidence of Criminal Behavior**

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

- 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.

SP108-000120-00

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
CPM PROGRESS SCHEDULE FOR CATEGORY III PROJECTS

March 1, 2011; Reissued July 12, 2016

Section 103.06(e) **Progress Schedule** of the Specifications is deleted and replaced by this provision.

Section 108.03 Progress Schedule of the Specifications is deleted and replaced by this provision.

For definitions of scheduling terms not defined herein, and guidelines on preparing and maintaining the Progress Schedule, refer to the *VDOT Post-Award Scheduling Guide*.

I. GENERAL REQUIREMENTS

This work shall consist of generating and maintaining a project Progress Schedule to aid the Contractor and the Department in planning and executing the Work. The Progress Schedule shall be used by the Contractor, the Department, and all involved parties to plan and schedule all work required to complete the project. The Progress Schedule shall also be used by the Department to monitor progress of the individual activities required to complete the project; as well as to assess the overall progress of the Work and to evaluate the effects of time-related changes on the project. The Progress Schedule shall consist of a Critical Path Method (CPM) Progress Schedule, Progress Schedule Narrative, and Progress Earnings Schedule submitted according to this provision.

The Contractor shall prepare and submit, for the Engineer's review and acceptance, a Progress Schedule to communicate the Contractor's intentions and proposed plan to accomplish the Work according to the Contract. The Progress Schedule shall depict the sequence in which the Contractor proposes to perform the Work and the dates on which the Contractor contemplates starting and completing all schedule activities required to complete the project. The Contractor shall maintain the Progress Schedule, at a minimum, monthly to ensure that it continues to represent the current status of the project and the Contractor's current work plan to complete the project.

The Contractor shall attend a Scheduling Conference with the Engineer no later than seven (7) calendar days prior to beginning the Work, with the exception of project start-up activities such as submittals, mobilization, surveying, construction access and signage, erosion and sedimentation controls, etc., as approved by the Engineer. The Scheduling Conference will be held to discuss the Contractor's overall plan to complete the Work and the detail work plan for the first ninety (90) calendar days of Work. The Scheduling Conference may be held in conjunction with the Pre-Construction Conference or at a separate meeting as mutually agreed to by the Contractor and the Engineer. The Contractor shall discuss his/her overall plan of operations concerning the Maintenance of Traffic (MOT)/Sequence of Construction or any proposed deviations from the phasing, staging, or sequence of construction as indicated on the Contract plans or as approved by the Engineer. During the Scheduling Conference key issues and project specific requirements necessary for the development of the Baseline Progress Schedule shall also be discussed. Such key issues shall include as applicable, but are not limited to key submittals, permits, construction access, right of way, environmental, utility, traffic or local events indentified in the Contract that may impact traffic; as well as other limitations to the Work or any known constraints or foreseeable issues that may impact the schedule. Such project specific requirements shall include as applicable, but are not limited to scheduling, phasing, sequencing, milestone(s), work to be performed by the Department or other previously identified involved parties; or any known or likely constructability issues relative to the Contract plans and specifications.

II. OVERVIEW OF THE VARIOUS REQUIRED PROGRESS SCHEDULE SUBMISSIONS

A. **Preliminary Progress Schedule –** At least two (2) business days prior to the Scheduling Conference, or as approved by the Engineer, the Contractor shall submit to the Engineer for review and acceptance a Preliminary Progress Schedule. At the Contractor's discretion, a complete detailed Baseline Progress Schedule for the entire project may be submitted in lieu of the Preliminary Progress Schedule. The Preliminary Progress Schedule submission shall consist of the following:

1. Preliminary Progress Schedule: The Preliminary Progress Schedule shall depict, at a detailed level, the Contractor's proposed sequence and start/finish dates for all activities scheduled for the first ninety (90) calendar days of work. It shall also include, as applicable, any milestones or work to be performed by sub-contractors, the Department, or third parties during the first ninety (90) calendar days of work. The Preliminary Progress Schedule shall also depict at a summary level the proposed overall sequence and timing of the remaining Work. The Preliminary Progress Schedule shall be prepared according to Section IV (A), with the exception of cost-loading.

2. Preliminary Progress Schedule Narrative: The Preliminary Progress Schedule Narrative shall describe the Contractor's detailed work plan for the first ninety (90) calendar days of work. The Preliminary Progress Schedule Narrative shall be prepared according to Section IV (B).

Until the Baseline Progress Schedule is accepted by the Engineer, the Contractor shall submit an update of the Preliminary Progress Schedule monthly, within five (5) working days after the current data date or as approved by the Engineer. The updated Preliminary Progress Schedule shall show the actual progress of work completed to date and the current detailed schedule for accomplishing the work planned for the following ninety (90) calendar days of Work, as of the data date. It shall also show the summary level activities required to complete the remainder of the Work.

B. **Baseline Progress Schedule –** Within thirty (30) calendar days after the Notice to Proceed (NTP) date or as approved by the Engineer, the Contractor shall submit in its entirety, his/her Baseline Progress Schedule, to the Engineer for review and acceptance. The Baseline Progress Schedule submittal shall consist of the following:

1. Baseline Progress Schedule: The Baseline Progress Schedule shall represent the Contractor's initial detailed plan to accomplish the entire scope of Work according to the Contract. The Baseline Progress Schedule shall be prepared based on the Critical Path Method (CPM) and shall depict in a time-scaled bar-chart plot, the sequence in which the Contractor proposes to perform the Work, the project critical path, and the dates on which the Contractor contemplates starting and completing the individual schedule activities required to complete the project. The Baseline Progress Schedule shall also depict the current status of the project and the Contractor's current plan to complete the remaining work, as of the Baseline Progress Schedule submittal date.

The Baseline Progress Schedule shall reflect a practicable work plan and logical progress of the Work as indicated in the Contract or as approved by the Engineer. When preparing the schedule, the Contractor shall consider as applicable, all known or specified constraints or restrictions such as: holidays, seasonal, normal weather, traffic or previously identified local events that may impact traffic, utility, railroad, right-of-way, environmental, permits, or other limitations to the Work that will impact the schedule. The Baseline Progress Schedule shall be prepared according to Section IV (A).

2. Baseline Progress Schedule Narrative: The Baseline Progress Schedule Narrative shall describe the Contractor's proposed overall work plan to complete the entire project as reflected on the Baseline Progress Schedule. The Baseline Progress Schedule Narrative shall be prepared according to Section IV (B).

3. Baseline Progress Earnings Schedule: The Baseline Progress Earnings Schedule shall indicate the Contractor's anticipated cumulative progress each month as of the Contractor's progress estimate date as defined in Section 109.08(a) of the Specifications. The anticipated cumulative progress shall be expressed as "Percent Complete" based on the anticipated total earnings to date relative to the Total Contract Value. The Baseline Progress Earnings Schedule shall reflect the anticipated progress of the Work as shown on the Baseline Progress Schedule and shall be prepared on the VDOT Form C-13C according to the VDOT Post-Award Scheduling Guide. At the Contractor's discretion, the Progress Schedule may be cost-loaded, in which case, the Progress Earnings Schedule shall then be prepared and submitted using the VDOT Form C-13CPM.

The Baseline Progress Schedule will be reviewed by the Engineer for acceptance according to Section VII. Upon acceptance by the Engineer, the Baseline Progress Schedule shall replace the Preliminary Progress Schedule. The accepted Baseline Progress Schedule shall henceforth become the project Schedule of Record (SOR). The SOR shall be defined as the currently accepted Baseline Progress Schedule. Until a subsequent Revised Progress Schedule is submitted and accepted, the accepted Baseline Progress Schedule shall remain the SOR against which all subsequent Progress Schedule Updates and progress will be compared. The SOR shall be used by the Engineer to assess the Contractor's schedule-based performance on the project.

C. Progress Schedule Update – The Contractor shall on a monthly basis submit for the Engineer's review and acceptance the Contractor's Progress Schedule Update within five (5) business days after the Contractor's progress estimate date or as approved by the Engineer. The Progress Schedule Update shall consist of the following:

1. Progress Schedule Update: The Progress Schedule Update shall depict the current status of the Work and the Contractor's current plan to complete the remaining work as of the data date. The Progress Schedule Update shall be prepared according to Section IV (A).

2. Progress Schedule Update Narrative: The Progress Schedule Update Narrative shall describe the work performed since the previous update and the Contractor's current plan for accomplishing the remaining work. It shall also describe any progress deficiencies, schedule slippages, or time-related issues encountered; as well as any actions taken or proposed to avoid or mitigate the effects of the progress deficiencies, schedule slippages, or time-related issues. The Progress Schedule Update Narrative shall be prepared according to Section IV (B).

3.

Progress Earnings Schedule Update: The Progress Earnings Schedule Update shall depict the current status of the project by percent complete based on the actual total earnings to date relative to the Total Contract Value. The Progress Earnings Schedule Update shall show the actual monthly and cumulative earnings to date as reflected on the Contractor's payment estimate, any variance in percent complete relative to the SOR, and the projected earnings for the remaining payment periods. The Progress Earnings Schedule Update shall be prepared on the VDOT Form C-13C or as specified herein and according to the VDOT Post-Award Scheduling Guide.

The Progress Schedule Update will be reviewed by the Engineer for acceptance according to Section VII. Upon acceptance by the Engineer, the Progress Schedule Update shall replace any previous Progress Schedule Updates as the current update of the SOR; however, it shall not replace the SOR. The currently accepted Progress Schedule Update shall henceforth become the contemporaneous schedule with which to report the current status of the project, plan the remaining Work, and evaluate the effects of any time-related changes or delays on the remaining Work.

D. Revised Progress Schedule – When the current Progress Schedule or work plan deviates significantly from the SOR, the Contractor shall submit to the Engineer for review and acceptance a Revised Progress Schedule to represent the Contractor's revised plan to complete the remaining work. Deviate significantly will be construed to mean deviations from the SOR resulting from schedule impacts or major changes in the Progress Schedule that alter the project critical path, Contract interim milestone(s), or project completion; or causes a major shift in the Progress Earnings Schedule. A Revised Progress Schedule will be required when:

1. The Engineer approves a Schedule Impact Analysis (SIA) for authorized or unanticipated changes in the Work or conditions that significantly impacts the Progress Schedule, as determined by the Engineer.

2. The Contractor proposes a different approach to his/her work plan that significantly impacts the Progress Schedule or the Engineer determines that the current Progress Schedule Update or Contractor's current work plan deviates significantly from the SOR. Such deviations may include, but are not limited to major changes in the Contractor's proposed phasing, general sequence, resource plan, means and methods, or durations. The Contractor may revise his/her Progress Schedule at any time, at his/her discretion; however, the Engineer will only consider accepting a Revised Progress Schedule submission for major changes that deviate significantly from the SOR.

3. The Engineer determines that progress of the Work is trending towards unsatisfactory, according to Section VIII (C), and in the opinion of the Engineer, it is apparent that the progress deficiency will not result in an extension of the completion date of the project beyond the Contract time limit and a Recovery Plan is not required to correct the progress deficiency. In such cases, the Engineer will request a meeting with the Contractor to discuss the progress deficiency to determine the appropriate corrective action required.

The Revised Progress Schedule submission shall be based on the currently accepted Progress Schedule Update and shall be prepared and submitted in the form of a Baseline Progress Schedule as described in Section II (B). However, it shall reflect the current status of the project as of the submittal date, approved changes in the Work, and the proposed plan for completing the remaining work. The Revised Progress Schedule shall be submitted in lieu of a subsequent Progress Schedule Update unless directed otherwise by the Engineer. The Revised Progress Schedule will be reviewed by the Engineer for acceptance according to Section VII. Upon acceptance by the Engineer, the Revised Progress Schedule shall henceforth replace the accepted Baseline Progress Schedule or any previously accepted Revised Progress Schedule as the SOR for the remainder of the project.

E. Final As-Built Progress Schedule – Within thirty (30) calendar days after final acceptance, the Contractor shall submit to the Engineer his/her Final As-built Progress Schedule. The Final As-built Progress Schedule shall show the actual start and finish dates for each activity in the schedule. The Contractor shall certify in writing that the Final As-built Progress Schedule accurately reflects the actual start and finish dates for all activities contained in the Progress Schedule. The Final As-built Progress Schedule shall be submitted in the form of a monthly Progress Schedule Update and shall represent the last Progress Schedule Update submission.

III. SCHEDULE IMPACT ANALYSIS (SIA) FOR CHANGES AND DELAYS

A. Changes, Delays, and Schedule Impacts – When changes in the Work that will impact the schedule are proposed or authorized by the Engineer, the Contractor shall submit for the Engineer's review and approval, a Schedule Impact Analysis (SIA) to determine the impact of the change. Also, when the Contractor believes he is entitled to a time extension and/or additional compensation for a time-related impact that is attributable to a cause beyond the control of and without the fault, negligence, or responsibility of the Contractor or those for whom the Contractor is responsible, the Contractor shall submit for the Engineer's review and approval, a SIA and all available supporting data to substantiate the request for modification of the Contract. The Contractor's request and SIA shall be submitted according to the following:

1. Impacts Due to Directed or Authorized Changes: When the Engineer issues a written order or authorizes a change in the Work in writing, the Contractor shall submit in writing within seven (7) calendar days of the Engineer's written direction or as required by the Engineer, a request for modification of the Contract, if the Contractor believes that additional time and/or compensation is required to perform the Work. Such changes in the Work may include, but are not limited to directed or authorized changes according to the applicable portions of Sections 104.02, 108.05, and 109.05 of the Specifications. The Contractor shall submit along with his/her request a *prospective* Schedule Impact Analysis (SIA) to substantiate the request for modification of the Contract according to this provision and the applicable portions of Sections 104.02, 108.05, and 109.05 of the Specifications.

2. Impacts Due to Unanticipated Changes or Delays: When the Contractor discovers or encounters previously unknown or unanticipated changes in the Work or conditions, or a delay event that he believes will impact progress of the Work or completion of the project, the Contractor shall notify the Engineer in writing within two (2) working days of such discovery or encounter. Such changes in the Work or conditions or delay events may include, but are not limited to unusually severe weather, extraordinary or catastrophic weather events, errors or omissions in the Contract; or differing site conditions or utility delays according to the applicable portions of Sections 104.03 and 105.08 of the Specifications.

   The Contractor shall then gather all available pertinent information and data necessary to determine how such change in the Work or condition will impact progress of the Work or completion of the project. The Contractor and the Department shall promptly meet to evaluate the scope and potential impact of such change or condition to allow the Engineer to make a timely decision on how to proceed, as well as to determine how the impact of such change or condition can be avoided or mitigated.

   The Engineer may direct the Contractor to submit a SIA prior to proceeding with the work affected by such change, condition, or delay, in which case the Contractor shall submit in writing within seven (7) calendar days after receipt of the Engineer's direction, a request for modification of the Contract and a *prospective* SIA to substantiate the request for modification of the Contract.

   Otherwise, the Contractor shall submit in writing a request for modification of the Contract and a *contemporaneous* SIA to substantiate the request for modification of the Contract. The request for modification of the Contract and SIA shall be submitted within fourteen (14) calendar days of completion of the changed work or work directly impacted by such condition, or the cessation date of the delay event, or as approved by the Engineer.

3. Unresolved Impacts: When the Contractor believes he is entitled to a time extension and/or additional compensation for an unresolved impact to the Work that is attributable to a cause beyond the control of and without the fault, negligence, or responsibility of the Contractor or those for whom the Contractor is responsible, the Contractor shall submit for the Engineer's review and approval, a request for modification of the Contract and a *retrospective* SIA to substantiate the request for modification of the Contract. Such impacts may involve, but are not limited to changes authorized by either Force Account Work or Unilateral Work Order, or other changes for which the scope of the change or magnitude of the impact could not be determined or mutually agreed to at the time the change was authorized or the delay event or changed condition was encountered.

The Contractor's notice of a change, a subsequent meeting with the Engineer, or submittal of a request for modification of the Contract as defined herein, shall not constitute a notice of intent to file a claim as required by Section 105.19. *No part of this provision is intended to alter, replace, or supersede Section 105.19 of the Specifications. The Contractor must adhere to Section 105.19 as well as this provision to preserve their rights to file a claim.*

B. Schedule Impact Analysis (SIA) – The SIA submission shall include a SIA schedule and a written SIA statement as well as supporting data and such information necessary for the Department to make an adequate and timely evaluation of any time-related request received from the Contractor for modification of the Contract. The SIA submission shall consist of the following:

1. A SIA schedule, as specified herein, which shall depict the schedule impact of the change in the Work or condition or delay event based on the currently accepted Progress Schedule Update, submitted prior to the earlier of the date the change in the Work was authorized or the changed condition or delay event was encountered. If the most recently submitted Progress Schedule Update is unacceptable, then the Engineer will evaluate the request based on the previously accepted Progress Schedule Update. In which case, the Contractor shall update the previously accepted Progress Schedule Update to show the actual progress of the Work to date as of the earlier of the date the change in the Work was authorized or the changed condition or delay event was encountered. The SIA schedule shall:

    a) Be based on the "Time Impact Analysis (TIA)" or "Contemporaneous Schedule Analysis" method as determined by the Engineer, to determine the status of the currently accepted Progress Schedule Update before and after the change in the Work or condition or delay event.

    b) Show a fragnet (fragmentary network of added or changed activities) representing the added work, changed work or condition, or delay event(s). The fragnet activities shall be logically linked to the affected activities to show the direct impact on the work.

    c) Show the current status of the completed and on-going activities as of the date the change in the Work was authorized or the changed condition was encountered or the delay event started.

    d) Depict the schedule impact by showing a comparison between the impacted Progress Schedule Update and the most recently accepted Progress Schedule Update with a data date closest to and prior to the earlier of the date the change in the Work was authorized or the changed condition or delay event was encountered.

    e) Depict the overall impact on the project critical path, Contract interim milestone(s), other significant dates, and the Contract fixed completion date, as applicable.

2. A written SIA statement to:

    a) Describe the type, cause, and scope of the added work, changed work or condition, or delay event.

    b) Provide sequence and timing of events and/or actions by all involved parties relating to the change or delay.

    c) Describe the particular operations affected as well as identify by Activity ID and Activity Name the activities that are directly impacted.

    d) Describe the impact on the critical path, total float, Contract interim milestone(s), other significant dates, or the Contract fixed completion date, as applicable.

    e) Include a comparative analysis report relative to the currently accepted Progress Schedule Update to identify all changes made to the impacted Progress Schedule.

f) Identify any actions taken and/or needed to avoid or mitigate the delay or the effects of the delay.

Approval or rejection of the SIA by Engineer shall be made within ten (10) business days after receipt of the SIA, unless subsequent meetings and negotiations are necessary, as determined by the Engineer. Upon approval by the Engineer, the Contractor shall incorporate the SIA into the Progress Schedule and shall submit the impacted Progress Schedule as a Progress Schedule Update or Revised Progress Schedule as directed by the Engineer. If appropriate, the approved SIA shall be used to substantiate any request for a time extension or time-related damages or additional compensations, according to the applicable portions of Sections 104.02, 104.03, 105.08, 108.04, and 109.05 of the Specifications.

IV. DETAILED REQUIREMENTS FOR PROGRESS SCHEDULE SUBMISSIONS

A. Progress Schedule – The Progress Schedule shall conform to the following requirements:

1. Software Compatibility Requirements: The Contractor shall submit his/her Progress Schedule in the Primavera proprietary exchange format (XER) to ensure compatibility with the Department's scheduling software system. The Department's scheduling software system is the latest version of Primavera's Project Management software (currently P6 version 6.2). Compatible shall mean that the Contractor-provided electronic file versions of the schedule can be imported into the Department's scheduling software system with no modifications, preparation or adjustments. For projects that are included in a multi-contract mega-project, the Contractor shall prepare and maintain his/her Progress Schedule in the Department's scheduling software system. At the Contractor's request, secured access via the internet may be granted to allow the Contractor to develop and maintain his/her Progress Schedule in the Department's scheduling software system. The Progress Schedule shall be submitted according to Section V.

2. Software Settings: If Primavera (P6) or equivalent scheduling software with similar features is used to prepare the Progress Schedule, the Contractor shall define the project attributes and schedule calculation options according to the software settings detail requirements defined in the VDOT Post-award Scheduling Guide.

3. Work Breakdown Structure (WBS): The Baseline Progress Schedule shall be organized using a multi-level hierarchical Work Breakdown Structure (WBS). The Contractor shall define a project WBS to allow for a hierarchical organization and breakdown of the Work based on the Contractor's approach and according to the phasing/sequence of construction and traffic control plans as specified in the Contract or as approved by the Engineer.

4. Activity Codes: The Contractor shall define and assign as appropriate, activity codes to allow for filtering, grouping, and sorting of activities by Responsibility, Phase, Stage, Feature of Work, Area, Location, Work Type, Crew, and Contract Modification activity codes to facilitate review and use of the Progress Schedule. If Primavera (P6) or equivalent scheduling software with similar features is used to prepare the Progress Schedule, the Contractor shall define activity codes using the project-specific activity codes option. Use of global activity codes shall not be allowed and shall be grounds for rejecting the Progress Schedule submission. Project-specific activity codes shall be defined and assigned according to the detail requirements defined in the VDOT Post-award Scheduling Guide.

5. Calendars: The Contractor shall define and assign as appropriate, project-specific calendar to each activity to indicate when the activity can be performed. If Primavera (P6) or equivalent scheduling software with similar features is used to prepare the Progress Schedule, the Contractor shall define the project calendars using the project-specific option. The project calendars shall indicate, as applicable, the standard working hours per day, standard working days per week, and non-work days such as week-ends, holidays, weather days, local events, environmental, time-of-year restrictions, etc. Use of global calendars shall not be allowed and shall be grounds for rejecting the Progress Schedule submission. The project-specific calendars shall be defined according to the detail requirements defined in the VDOT Post-award Scheduling Guide.

6. Level of Detail: The Contractor shall develop the Progress Schedule to an appropriate level of detail that allows for the formation of a reasonable critical path. The Progress Schedule shall show as applicable, Contract milestones and other key milestones for significant project events. The Progress Schedule shall also show, as applicable, administrative, procurement, MOT, work to be performed by other involved parties, discrete work activities to indicate the type of operation and location of the work, and other necessary time-based tasks required for completion of the project. The Work shall be sub-divided as practical, to such a level that the activity durations for on-site work excluding, activities whose durations are specified elsewhere in the Contract, are twenty (20) workdays or less. Longer durations may be allowed, as approved by the Engineer, for activities that typically span long periods of time such as fabrication and delivery of materials, administrative, MOT, or other such level of effort activities.

7. Network Logic: The Progress Schedule network logic shall be based on the Precedence Diagram Method (PDM) and shall show the order and inter-dependence of the activities and the sequence in which the Contractor proposes to accomplish the Work. The Contractor shall apply the Critical Path Method (CPM) of network calculation to generate the Progress Schedule. The project critical path shall be based on the “Longest Path”. The Progress Schedule network logic shall be developed according to the detail requirements defined in the VDOT Post-award Scheduling Guide.

8. Schedule Constraints: All Contract milestone activities shall be constrained, as applicable, with a “Start On or After” (Early Start) date or “Finish On or Before” (Late Finish) date equal to the “Start No Earlier Than” or “Must Finish By” date specified in the Contract, except as specified below. The Contractor’s use of schedule constraints with the exception of the specific requirements defined below is not allowed, unless approved by the Engineer. The use of schedule constraints such as “Start On” or “Finish On” for the purpose of manipulating float or the use of schedule constraints that violate network logic such “Mandatory Start” or “Mandatory Finish” will not be allowed. When a schedule constraint is used, other than the schedule constraints specified herein, the Contractor shall provide explanation for the use of such constraint in the Progress Schedule or Progress Schedule Narrative.

9. Data Date: The data date is defined as the current status date of the Progress Schedule, which defines the start date for the scheduled remaining Work. All Progress Schedule submissions shall be calculated using an appropriate data date to indicate the status of the project at the time the Progress Schedule is submitted.

a) For the Preliminary, Baseline, or subsequent Revised Progress Schedule submission, the data date shall be no more than five (5) business days prior to the submittal date.

b) For the monthly Progress Schedule Update submissions the data date shall be the Contractor's monthly progress estimate date as defined in Section 109.08(a) of the Specifications.

10. Total Float: This section is intended to apply only to considerations of Contract time extension requests relative to available total float. Considerations for other time-related impacts, if any, are covered in other Sections of the Specifications. Any request for a Contract time extension will be evaluated, according to Section 108.04, based on the critical path and available total float. Total float is defined as the amount of time, typically expressed in days (number of workdays or calendar days depending on the assigned calendar), that an activity can be delayed without extending the completion date of a related Contract interim milestone or the project, as applicable. Except as specified herein, total float shall be calculated, as applicable, relative to a constrained Contract interim milestone date or the Contract fixed completion date specified in the Contract or a subsequent Work Order.

With the exception of A+B based Contracts, any float available in the Progress Schedule, at any time, shall be considered project float and is not for the exclusive use or benefit of either the Department or the Contractor. It shall be understood by the Contractor and the Department that float is a shared commodity and either party has the right to full use of any available float. Until such time that all available float is depleted, the project float shall be used responsibly in the best interest of the project and in a manner that best serves the timely completion of the Work by either a specified Contract interim milestone or the Contract fixed completion date, as applicable.

For A+B based Contracts for which the Contractor bids the Contract time and/or Contract interim milestone(s), any float on a critical activity or activities on the critical path shall belong to the Contractor and any float on non-critical activities or activities not on the critical path shall belong to the project and shall be considered available project float for use by either the Department or the Contractor for the benefit of the project.

The Contractor shall not modify the Progress Schedule at any time for the purpose of manipulating float. Negative float conditions will not be allowed in the Preliminary, Baseline, or Revised Progress Schedule.

11. Progress Schedule Update: The Progress Schedule Update shall reflect the actual status of the Work and the current plan to complete the remaining work as of the current data date. It shall show the actual start/finish dates for each completed activity and the actual start date, remaining duration, and progress (percent complete) of each on-going activity. The Progress Schedule Update shall allow for an accurate determination of progress of completed and on-going work based on total actual cost (earnings) to date; as well as an accurate projection of the anticipated monthly earnings for the remaining work based on remaining cost. The Progress Schedule Update shall be based on the most recently accepted Progress Schedule and shall be prepared according to the detail requirements defined in the VDOT Post-award Scheduling Guide.

B. **Progress Schedule Narrative –** As specified in Section II of this provision, a Baseline Progress Schedule Narrative shall be submitted with the Baseline Progress Schedule submission and a Progress Schedule Update Narrative shall be submitted with the Progress Schedule Update submission. The Progress Schedule Narrative shall be prepared according to the following:

1. Baseline Progress Schedule Narrative: The Baseline Progress Schedule Narrative shall include the following written information:

   a) The Contractor's overall plan describing:

      i) The proposed overall sequence of construction, including where the work will begin and how the work will progress;
      iii) The methodology, scheduling assumptions, and general procedures for completing each major feature of Work;
      iii) A list of the major resources (number and type of crews and equipment) required to complete the project as scheduled. For early completion schedules (projects with an early completion interim milestone provision or projects with scheduled completion dates earlier than the Contract specified date by thirty (30) calendar days or more), the Contractor shall also provide a written resource plan for the major operations to demonstrate the Contractor's ability and commitment to provide resources at the level required to complete the work within the timeframes shown in the Progress Schedule;
      iv) Anticipated daily production rates for each major operation.

   b) A description of the project critical path.

   c) A listing of the major milestone dates, including as applicable, Contract interim milestone(s), major traffic switches, start/finish milestones for each phase or stage of work, or related work to be performed by the Department or other involved parties.

   d) A log identifying the schedule constraints used in the Progress Schedule and reason for using each constraint.

   e) A description of the calendar(s) used in the Progress Schedule to indicate the Calendar ID, number of work days per week, number of shifts per day, and number of hours per day as well as the anticipated number of non-working days per month for each calendar with considerations, as applicable, for holidays, normal weather conditions; as well as for seasonal or other known or specified constraints and restrictions (i.e. traffic, local events, environmental, permits, utility, etc.).

   f) A description of any known problems or anticipated issues that may impact the schedule; and any actions taken, proposed, or needed to correct the problems.

2. Progress Schedule Update Narrative: The Progress Schedule Update Narrative shall include the following written information:

    a) A description of the current status of the project in terms of the current actual percent complete by total earnings relative to the SOR planned percent complete; as well as the scheduled completion dates of the interim milestone(s) and project completion.

    b) A description of any deviations from scheduled performance in terms of the scheduled completion dates of the interim milestone(s) and project completion since the previous schedule submission, including a statement explaining why any of the schedule milestone date(s) is forecast to occur after the specified date(s).

    c) A description of the work performed since the previous Progress Schedule submission and any deviations from the work scheduled.

    d) A description of major changes in the Contractor's work plan in terms of sequence of construction, shifts, manpower, equipment, or materials.

    e) A description of any deviations in project critical path since the previous Progress Schedule submission.

    f) A listing of adverse weather dates and number of days lost this period due to adverse weather or conditions resulting from adverse weather. List the activities affected and any impacts to the critical path.

    g) A description of problems encountered or anticipated since the previous Progress Schedule submission, including an explanation of any corrective actions taken or required to be taken.

    h) A description of work planned for the next update period and actions to be taken by the Department or other involved parties.

V. REPORTING AND SUBMITTAL REQUIREMENTS FOR PROGRESS SCHEDULE SUBMISSIONS

Unless directed otherwise by the Engineer, the Contractor shall submit for each Progress Schedule submission the following submittal items. Each electronic file submittal shall have a unique file name prefixed by the Contract ID to identify the Contract, submission type and order of submission, and date of submittal (e.g. C00012345B01_B-1_12-30-10.xer, C00012345B01_U-1_1-10-11.xer, etc.). The Progress Schedule submittals shall include:

1. A transmittal letter to the Engineer, identifying the date of submittal and which Progress Schedule is being submitted for review.

2. Two (2) sets of data compact disks (CD) containing the electronic working export file copy of the Progress Schedule in an "XER" file format in version 6.2 or lower. Each CD shall be labeled to indicate the Contract ID, type of submission, filename, and submittal date.

3. Two (2) sets of paper copies of the following schedule reports:

    a) Schedule calculation log.

b) A legible time-scaled bar-chart plot of the Progress Schedule organized by WBS and sorted by early start to show for each activity: the Activity ID, Activity Name, Original Duration, Remaining Duration, Start and Finish dates, Activity Percent Complete, and Total Float. The bar-chart plot shall identify the project critical path (longest path).

4. Electronic file copies by email of the following:

a) A working export file of the Progress Schedule in an "XER" file format in version 6.2 or lower.

b) Electronic "PDF" copy of the tabular Predecessor/Successor report sorted in ascending order by Activity ID to show the following:

i) Activity ID;
ii) Activity Name;
iii) Original Duration;
iv) Remaining Duration;
v) Early Start;
vi) Early Finish;
vii) Late Start;
viii) Late Finish;
ix) Total Float;
x) Critical (Yes or No);
xi) Predecessors: Activity ID, Activity Name, Early Start, Early Finish, Relationship Type, Lag, Driving (Yes or No), Constraint, and Constraint Date;
xii) Successors: Activity ID, Activity Name, Early Start, Early Finish, Relationship Type, Lag, Driving (Yes or No), Constraint, and Constraint Date.

c) Electronic "PDF" copy of the Progress Schedule Narrative.

d) Electronic "PDF" copy of the Progress Earnings Schedule S-Curve.

e) A working file of the Progress Earnings Schedule (VDOT Form C-13C).

VI. FAILURE TO SUBMIT PROGRESS SCHEDULES

The Engineer will take necessary actions according to the following for failure on the part of the Contractor to submit the required Progress Schedules:

1. If the Contractor fails to submit his/her complete Preliminary Progress Schedule at least two (2) business days prior to the Scheduling Conference, the Contractor shall not commence Work, with the exception of project start-up activities such as submittals, mobilization, surveying, construction access and signage, erosion and sedimentation controls, etc., until after seven (7) calendar days from the date the Contractor submits his/her complete Preliminary Progress Schedule, unless otherwise approved in writing by the Engineer.

2. If the Contractor fails to submit his/her complete Baseline Progress Schedule within thirty (30) calendar days after the NTP date or as approved by the Engineer, the Engineer will delay approval of the Contractor's next monthly progress estimate following the due date of the Baseline Progress Schedule until such time as the Contractor has satisfied the submittal requirements.

3. If the Progress Schedule submission is deemed unacceptable by the Engineer; and the Contractor fails to submit an acceptable Progress Schedule within fourteen (14) calendar days after the Engineer's request, the Engineer will delay approval of the Contractor's next monthly progress estimate following the due date of the Progress Schedule until such time as the Contractor has satisfied the submittal requirements.

4. If the Contractor fails to provide a Progress Schedule Update or if a Revised Progress Schedule is required as specified herein and the Contractor fails to provide such a Progress Schedule, the Engineer will delay approval of the Contractor's next monthly progress estimate following the due date of the Progress Schedule until such time as the Contractor has satisfied the submittal requirements.

5. If the Contractor fails to provide an acceptable Final As-built Progress Schedule as specified, the Engineer will delay approval for payment of the Contractor's final progress estimate until such time as the Contractor has satisfied the submittal requirements.

Please note: Delays resulting from the Contractor's failure to provide the Progress Schedule according to the requirements set forth herein will not be considered just cause for extension of the Contract time limit or for additional compensation.

VII. REVIEW AND ACCEPTANCE

The Engineer will review all Progress Schedule submissions within fourteen (14) calendar days of receipt of the Contractor's complete submittal, unless subsequent review meetings are necessary, as determined by the Engineer. The Engineer's review for acceptance will not commence until all required submittal items and schedule information as defined herein are provided. Acceptance by the Engineer will be based only on completeness and conformance with the Contract.

If the Contractor's Progress Schedule submission is deemed to be acceptable, the Engineer will respond with a written notice of acceptance, which may include comments or minor concerns on the submission and/or a request for clarification or justification. When the Engineer's response include any comments, concerns, or request for clarification or justification, the Contractor shall respond accordingly within seven (7) calendar days of receipt of the Engineer's response. The Contractor's response may include a resubmission of the Progress Schedule to address the Engineer's comments or concerns or provide clarification or justification accordingly.

If the Contractor's Progress Schedule submission is deemed to be unacceptable, the Engineer will issue a written notification of non-conformance, which will include a request for resubmission and comments describing the deficiencies prompting the Engineer's decision. At the Engineer's discretion, the Contractor may be required to attend a schedule review meeting to discuss the issues prompting the Engineer's decision or to facilitate review and acceptance of the Progress Schedule submission.

When the Progress Schedule submission is deemed by the Engineer to be unacceptable, the Contractor shall revise and re-submit the Progress Schedule submission accordingly, within seven (7) calendar days of receipt of the Engineer's response.

Review and acceptance by the Engineer will not constitute a waiver of any Contract requirements and will in no way assign responsibilities of the work plan, scheduling assumptions, and validity of the schedule to the Department. Failure of the Contractor to include in the Progress Schedule any element of work required by the Contract for timely completion of the project will not excuse the Contractor from completing the Work within the Contract specified interim milestone(s) or the Contract time limit, as applicable.

VIII. MONITORING THE WORK AND ASSESSING PROGRESS

A. Monitoring the Work – The Engineer will monitor the Work regularly to identify deviations from the Contractor's scheduled performance relative to the SOR. The Contractor shall notify the Engineer at least two (2) working days in advance of any changes in the Contractor's planned operations or critical stage work requiring Department oversight or inspection. The Contractor shall attend a monthly progress schedule meeting with the Engineer on a day agreed to by the Contractor and the Engineer. The Contractor shall furnish his/her detailed 30-day look-ahead schedule at the progress meeting and shall be prepared to discuss the current status of the Work and planned operations for the following thirty (30) calendar days. The 30-day look-ahead schedule shall be based on the Contractor's current monthly Progress Schedule Update.

B. Progress Evaluation – Progress will be evaluated by the Engineer at the time of the monthly progress estimate relative to the SOR. The Contractor's actual progress will be considered unsatisfactory if any one of the following conditions occurs:

1. The actual total earnings to date percentage for work completed, based on the Contractor's progress payment estimate, falls behind the SOR planned cumulative earnings percentage by more than ten (10) percentage points. If the Progress Earnings Schedule is based on a cost-loaded Progress Schedule, then the unsatisfactory progress threshold will be based on falling behind the SOR planned cumulative late dates earnings percentage. Payments for Stored Materials, Materials on Hand, or Adjustments (asphalt, fuel, etc.) shall not be included in the actual progress earnings.

2. The calculated completion date of a Contract interim milestone is later than the specified completion date by more than fourteen (14) calendar days.

3. The calculated project completion date is later than the Contract fixed completion date by more than thirty (30) calendar days.

C. Progress Deficiency and Schedule Slippage – When the Contractor's actual progress is trending toward unsatisfactory status, the Engineer will request a meeting with the Contractor to discuss any actions taken or required by the Contractor to reverse this trend and to correct the progress deficiency or schedule slippage.

When the Contractor's actual progress is deemed unsatisfactory as defined by any one of the conditions listed under **Progress Evaluation** of this provision, the Engineer will issue a written notice of unsatisfactory performance to advise the Contractor that five (5) percent retainage of the monthly progress estimate is being withheld and will continue to be withheld as described in Section 109.08(c), for each month the Contractor's actual progress is determined to be unsatisfactory, unless there is a pending decision by the Engineer on a request for modification of the Contract for which the Contractor has previously provided documentation as required.

When the Contractor fails to respond with good faith efforts as described herein to restore satisfactory progress, the Engineer will issue a notice to indicate that he may recommend the Contractor be temporarily disqualified from bidding on Contracts with the Department as described in Section 102.08 of the Specifications, if progress remains unsatisfactory at the time of preparation of the next monthly progress estimate following the Engineer's notice. Prior to recommendation for removal from the list of pre-qualified bidders, the Engineer will allow the Contractor fourteen (14) calendar days from the date of the unsatisfactory performance notice to respond. Such "good faith" efforts shall be provided in sufficient detail to allow the Engineer to fully evaluate the Contractor's plans for recovery. As an example of good faith efforts, the Contractor may submit to the Engineer, a proposed recovery plan in the form of a Progress Schedule Update and a written statement to describe the Contractor's proposed actions and timeframe to correct the progress deficiency or schedule slippage. The Contractor may also submit to the Engineer a written explanation and supporting documentation to establish that such delinquency was attributable to conditions beyond his/her control. Any schedule adjustments resulting from a recovery plan will be reviewed according to Section VII, but the modified Progress Schedule Update shall not replace the current SOR.

When the Engineer determines the Contractor's progress is again satisfactory the five (5) percent retainage previously withheld will be released to the Contractor according to the provisions of Section 109.08 (c) of the Specifications.

If the Contractor is temporarily disqualified from bidding on Contracts with the Department, the Contractor will not be reinstated until either the Engineer deems that his/her progress has improved to the extent that the Work can be completed within the Contract time limit or the project has received final acceptance according to the provisions of Section 108.09.

IX. MEASUREMENT AND PAYMENT

Required Progress Schedule submissions will be measured and paid for according to the following:

A. Basis of Payment – Progress payments will be made according to the following:

1. Progress payments for the Baseline Progress Schedule pay item will be made as follows:

    a) A twenty-five (25) percent of the Contract bid item lump sum amount will be made upon acceptance of the Preliminary Progress Schedule submission.

    b) A seventy-five (75) percent of the Contract bid item lump sum amount will be made upon acceptance of the Baseline Progress Schedule submission. When a Baseline Progress Schedule is provided in lieu of a Preliminary Progress Schedule, a payment of one hundred (100) percent of the Contract bid item lump sum amount will be made upon acceptance of the Baseline Progress Schedule submission.

2. Progress payments for the Progress Schedule Update pay item will be made as follows:

    a) Progress payments of one each (1 EA) at the Contract bid item unit price will be made upon acceptance of the Progress Schedule Update submission.

b) A Revised Progress Schedule may be required in lieu of and paid for upon acceptance as a Progress Schedule Update, as determined by the Engineer. When a Revised Progress Schedule is required by the Engineer, in addition to a regular Progress Schedule Update submission, progress payments of one each (1 EA) at the Contract bid item unit price will be made under the pay item for Progress Schedule Updates upon acceptance of the Revised Progress Schedule submission.

c) Upon approval, the SIA shall be incorporated into the Progress Schedule Update or Revised Progress Schedule, as directed by the Engineer, and paid for as a Progress Schedule Update. When a SIA is required in addition to a regular Progress Schedule Update submission, progress payment of one each (1 EA) at the Contract bid item unit price will be made upon approval under the pay item for Progress Schedule Update.

d) Progress payments of one each (1 EA) at the Contract unit price will be made upon acceptance of the Final As-built Schedule submission.

3. No separate measurement and payment will be made for attendance of the Scheduling Conference, progress meetings or other schedule related meetings. All costs associated with attendance of the scheduling meetings will be considered incidental.

B. Payment Items – Payments for all associated costs to attend schedule meetings, prepare, update, revise, and/or furnish the Progress Schedule will made under the following pay items:

Pay Item	**Pay Unit**
Baseline Progress Schedule	Lump Sum
Progress Schedule Update	Each

SP109-000100-02

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
ASPHALT MATERIAL PRICE ADJUSTMENT

April 28, 2017

All asphalt material contained in the attached master listing of eligible bid items and designated by pay items in the contract will be price adjusted according to the provisions as set forth herein. Other items will not be adjusted, except as otherwise specified in the contract. If new pay items which contain asphalt material are established by Work Order, they will not be subject to Price Adjustment unless specifically designated in the Work Order to be subject to Price Adjustment.

Each month, the Department will publish an average state-wide PG 64S-22 f.o.b. price per ton and an average PG 64E-22 f.o.b. price per ton developed from the average terminal prices provided to the Department from suppliers of asphalt cement to contractors doing work in Virginia. The Department will collect terminal prices from approximately 12 terminals each month. These prices will be received once each month from suppliers on or about the last weekday of the month. The high and low prices will be eliminated and the remaining values averaged to establish the average statewide price for the following month. The monthly state-wide average price will be posted on the Construction Division website on or about the first weekday of the following month. In the event the average prices were to change by 10 percent or more of the Base Index during the middle of the month the Contractor can submit a letter to the Department and supplier that provides evidence of the difference in price. Upon receipt of the letter consideration will be given to extend additional adjustments as deemed necessary.

This monthly statewide average price will be the Base Index for all contracts on which bids are received during the calendar month of its posting and will be the Current Index for all asphalt placed during the calendar month of its posting. In the event an index changes radically from the apparent trend, as determined by the Engineer, the Department may establish an index which it determines to best reflect the trend.

The amount of adjustment applied will be based on the difference between the contract Base Index and the Current Index for the applicable calendar month during which the work is performed. The quantity of asphalt cement for asphalt concrete pavement to which adjustment will be applied will be the quantity based on the percent of asphalt cement shown on the appropriate approved job mix formula.

Adjustment of any asphalt material other than PG 64S-22 and PG 64E-22 will be based on the indexes for PG 64S-22.

The quantity of asphalt emulsions to which adjustment will be applied will be the quantity based on 65 percent residual asphalt.

Price adjustment will be shown as a separate entry on the monthly progress estimate; however, such adjustment will not be included in the total cost of the work for progress determination or for extension of contract time.

Any apparent attempt to unbalance bids in favor of items subject to price adjustment or failure to submit required cost and price data as noted hereinbefore may result in rejection of the bid proposal.

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

VIRGINIA DEPARTMENT OF TRANSPORTATION
MASTER LISTING OF
ASPHALT MATERIAL ITEMS ELIGIBLE FOR PRICE ADJUSTMENT

ITEM	DESCRIPTION	UNITS	SPECIFICATION
10062	Asphalt-Stab. Open-Graded Material	Ton	313
10416	Liquid Asphalt	Gal	311 312
10417	Tack Coat	Gal	310
10420	Blotted Seal Coat Ty. B	SY	ATTD
10422	Blotted Seal Coat Ty. C	SY	ATTD
10423	Blotted Seal Coat Ty. C-1	SY	ATTD
10424	Blotted Seal Coat Ty. D	SY	ATTD
10598	NS Asphalt Concrete	Ton	315
10603	Asphalt Concrete Ty. SM-19.0A	Ton	315
10604	Asphalt Concrete Ty. SM-19.0D	Ton	315
10605	Asphalt Concrete Ty. SM-19.0E (76-22 or 64E)	Ton	315
10606	Asphalt Concrete Ty. SM-9.5	Ton	315
10607	Asphalt Concrete Ty. SM-12.5A	Ton	315
10608	Asphalt Concrete Ty. SM-12.5D	Ton	315
10609	Asphalt Concrete Ty. SM-12.5E (64E-22)	Ton	315
10610	Asphalt Concrete Ty. IM-19.0A	Ton	315
10611	Asphalt Concrete Ty. IM-19.0D	Ton	315
10612	Asphalt Conc. Base Cr. Ty. BM-25.0	Ton	315
10613	Asphalt Concrete Ty. BM-37.5	Ton	315
10614	Asphalt Concrete Ty. IM-19.0E (76-22 or 64E)	Ton	315
10635	Asphalt Concrete Ty. SM-9.5A	Ton	315
10636	Asphalt Concrete Ty. SM-9.5D	Ton	315
10637	Asphalt Concrete Ty. SM-9.5E (64E-22)	Ton	315
10639	Asphalt Concrete Ty. SM-19.0	Ton	315
10642	Asphalt Concrete Ty. BM-25.0A	Ton	315
10643	Asphalt Concrete Ty. BM-25.0D	Ton	315
10650	Stone Matrix Asphalt SMA-9.5(64H-22)	Ton	317
10651	Stone Matrix Asphalt SMA-9.5(64E-22)	Ton	317
10652	Stone Matrix Asphalt SMA-12.5(64H-22)	Ton	317
10653	Stone Matrix Asphalt SMA-12.5(64E-22)	Ton	317
10654	Stone Matrix Asphalt SMA-19.0(64H-22)	Ton	317
10655	Stone Matrix Asphalt SMA-19.0(64E-22)	Ton	317
10701	Liquid Asphalt Coating	SY	ATTD
12505	Asphalt Concrete Curb Backup Material	Ton	315
13240	Asphalt Concrete Sidewalk	Ton	504
16110	Emul. Asph. Slurry Seal Type A	SY	ATTD
16120	Emul. Asph. Slurry Seal Type B	SY	ATTD
16130	Emul. Asph. Slurry Seal Type C	SY	ATTD
16144	Latex Mod. Emul. Treat. Type B	Ton	ATTD
16145	Latex Mod. Emul. Treat. Type C	Ton	ATTD
16146	Latex Mod. Emul. Treat. Rutfilling	Ton	ATTD
16161	Modified Single Seal	SY	ATTD
16162	Modified Double Seal	SY	ATTD

ITEM	DESCRIPTION	UNITS	SPECIFICATION
16249	Nontracking Tack Coat	Gal.	ATTD
16250	Liquid Asphalt Matl. CMS-2 (Mod)	Gal	ATTD
16251	Liquid Asphalt Matl. CMS-2	Gal	ATTD
16252	Liquid Asphalt Matl. CRS-2	Gal	ATTD
16253	Liquid Asphalt Matl. CRS-2H	Gal.	ATTD.
16254	Liquid Asphalt Matl. RC-250	Gal	ATTD
16256	Liquid Asphalt Matl. RC-800	Gal	ATTD
16257	NS Liquid Asphalt Matl.	Gal	ATTD
16260	Liquid Asphalt Matl. CRS-2L	Gal	ATTD
16325	NS Asphalt Concrete	Ton	N/A
16326	Asphalt Concrete Ty. SM-4.75A	Ton	315
16327	Asphalt Concrete Ty. SM-4.75D	Ton	315
16328	Asphalt Concrete Ty. SM-4.75E	Ton	315
16330	Asphalt Concrete Ty. SM-9.0A	Ton	315
16335	Asphalt Concrete Ty. SM-9.5A	Ton	315
16337	Asph. Conc. Ty. SM-9.5ASL (Spot Level)	Ton	315
16340	Asphalt Concrete Ty. SM-9.5D	Ton	315
16342	Asph. Conc. Ty. SM-9.5DSL (Spot Level)	Ton	315
16345	Asphalt Concrete Ty. SM-9.5E (64E-22)	Ton	315
16350	Asphalt Concrete Ty. SM-12.5A	Ton	315
16352	Asph. Con. Ty. SM-12.5ASL (Spot Level)	Ton	315
16355	Asphalt Concrete Ty. SM-12.5D	Ton	315
16357	Asph. Con. Ty. SM-12.5DSL (Spot Level)	Ton	315
16360	Asphalt Concrete Ty. SM-12.5E (64E-22)	Ton	315
16362	Asphalt Concrete Ty. SM-19.0A	Ton	315
16363	Asphalt Concrete Ty. SM-19.0D	Ton	315
16364	Asphalt Concrete Ty. SM-19.0E (76-22 or 64E)	Ton	315
16365	Asphalt Concrete Ty. IM-19.0A	Ton	315
16370	Asphalt Concrete Ty. IM-19.0D	Ton	315
16371	Asphalt Concrete Ty. IM-19.0E (76-22 or 64E)	Ton	315
16373	Asphalt Concrete Ty. IM-19.0A (T)	Ton	315
16374	Asphalt Concrete Ty. IM-19.0D (T)	Ton	315
16377	Asphalt Concrete Ty. BM-37.5	Ton	315
16379	Asphalt Concrete Ty. IM-19.0T	Ton	315
16390	Asphalt Concrete Ty. BM-25.0A	Ton	315
16392	Asphalt Concrete Ty. BM-25.0D	Ton	315
16395	Asphalt Concrete Ty. BM-25.0A (T)	Ton	315
16397	Asphalt Concrete Ty. BM-25.0D (T)	Ton	315
16400	Stone Matrix Asphalt SMA-9.5(64H-22)	Ton	ATTD
16401	Stone Matrix Asphalt SMA-9.5(64E-22)	Ton	ATTD
16402	Stone Matrix Asphalt SMA-12.5(64H-22)	Ton	ATTD
16403	Stone Matrix Asphalt SMA-12.5(64E-22)	Ton	ATTD
16404	Stone Matrix Asphalt SMA-19.0(64H-22)	Ton	ATTD
16405	Stone Matrix Asphalt SMA-19.0(64E-22)	Ton	ATTD
16490	Hot Mix Asphalt Treatment	Ton	ATTD
16500	Surf.Preparation & Restoration Type I	Ton	ATTD
16502	Surf.Preparation & Restoration Type II	Ton	ATTD

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

ITEM	DESCRIPTION	UNITS	SPECIFICATION
16504	Surf.Preparation & Restoration Type III	Ton	ATTD
67201	NS Asphalt Concrete Overlay	Ton	315
67210	NS Asphalt Concrete	Ton	315
68240	NS Asphalt Concrete	Ton	315

SP109-000110-00

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
OPTIONAL ADJUSTMENT FOR FUEL

July 1, 2015; Reissued July 12, 2016

The Department will adjust monthly progress payments up or down as appropriate for cost changes in fuel used on specific items of work identified in this provision. The Department will provide a master listing of standard bid items eligible for fuel adjustment on its website.

Included with this proposal is a listing of standard bid items the Department has identified as eligible for fuel adjustment on this project(s) as well as the respective fuel factors per pay unit for those items. Only items on this listing will be eligible for adjustment. The fuel usage factor for each item is considered inclusive of all fuel usage. Generally, non-standard pay items are not eligible for fuel adjustment.

The listing of eligible items applicable to this particular project is shown on Form C-21B "Bid Items Eligible for Fuel Adjustment" included with the bidding documents. The Bidder may choose to have fuel adjustment applied to any or all eligible items on this project's listing by designating the items for which the fuel adjustment will apply. The Bidder's selection of items for fuel adjustment may not be changed once he has submitted Form C-21B to the Department.

In order to be eligible for fuel adjustment under this provision, the apparent lowest responsive and responsible Bidder shall clearly identify on Form C-21B those pay items he chooses to have fuel adjustment applied on. Within 21 days after the receipt of bids the apparent successful Bidder shall submit his designated items on Form C-21B to the Contract Engineer. Items the successful Bidder chooses for fuel adjustment must be designated by writing the word "Yes" in the column titled "Option" by each bid item chosen for fuel adjustment. The successful Bidder's designations on Form C-21B must be written in ink or typed, and signed by this Bidder to be considered complete. Items not properly designated or left blank on the Bidder's C-21B "Bid Items Eligible for Fuel Adjustment" form may be not considered for adjustment. If the apparent successful Bidder fails to return his Form C-21B within the timeframe specified, items will not be eligible for fuel adjustment on this project.

The monthly index price to be used in the administration of this provision will be calculated by the Department from the Diesel fuel prices published by the U. S. Department of Energy, Energy Information Administration on highway diesel prices, for the Lower Atlantic region. The monthly index price will be the price for diesel fuel calculated by averaging each of the weekly posted prices for that particular month.

For the purposes of this provision, the base index price will be calculated using the data from the month preceding the receipt of bids. The base index price will be posted by the Department at the beginning of the month for all bids received during that month.

The current index price will be posted by the Department and will be calculated using the data from the month preceding the particular estimate being vouchered for payment.

The current monthly quantity for eligible items of work selected by the Contractor for fuel adjustment will be multiplied by the appropriate fuel factor to determine the gallons of fuel to be cost adjusted. The amount of adjustment per gallon will be the net difference between the current index price and the base index price. Computation for adjustment will be made as follows:

S = (E - B) QF

Where; S = Monetary amount of the adjustment (plus or minus)
B = Base index price
E = Current index price
Q = Quantity of individual units of work
F = Appropriate fuel factor

Adjustments will not be made for work performed beyond the original contract time limit unless the original time limit has been changed by an executed Work Order.

If new pay items are added to this contract by Work Order and they are listed on Department's master listing of eligible items, the Work Order must indicate which of these individual items will be fuel adjusted; otherwise, those items will not be fuel adjusted. If applicable, designating which new pay items will be added for fuel adjustment must be determined during development of the Work Order and clearly shown on Form C-10 Work Order. The Base Index price on any new eligible pay items added by Work Order will be the Base Index price posted for the month in which bids were received for that particular project. The Current Index price for any new eligible pay items added by Work Order will be the Index price posted for the month preceding the estimate on which the Work Order is paid.

When quantities differ between the last monthly estimate prepared upon final acceptance and the final estimate, adjustment will be made using the appropriate current index for the period in which that specific item of work was last performed.

In the event any of the base fuel prices in this contract increase more than 100 percent (i.e. fuel prices double), the Engineer will review each affected item of work and give the Contractor written notice if work is to stop on any affected item of work. The Department reserves the right to reduce, eliminate or renegotiate the unit price for remaining portions of affected items of work.

Any amounts resulting from fuel adjustment will not be included in the total cost of work for determination of progress or for extension of contract time.

SP109-000120-00

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
PRICE ADJUSTMENT FOR STEEL

June 15, 2015; Reissued July 12, 2016

The Department will adjust monthly progress payments up or down as appropriate for cost changes in steel used on specific items of work identified in the Contract according to this provision. This Special Provision provides a master listing of standard bid items the Department has determined are eligible for steel price adjustment.

An automatically generated *project-specific* listing of *standard* bid items the Department has identified as eligible for steel price adjustment is included with the bidding proposal. Only items on this listing will be eligible for steel price adjustment. Generally, *non-standard* pay items will not be eligible for steel price adjustment unless such steel items are project-specific modifications of items normally eligible, are clearly and specifically identified by a separate and distinct steel pay item and the quantities present on the project constitute major items of the work. These items may be addressed by project specific provisions and their related pay items designated as being eligible in the bid proposal. Items eligible for steel price adjustment for a particular project will be shown on Form C-21C "Bid Items Eligible for Steel Price Adjustment" and included with the bidding documents. The Bidder may choose to have steel price adjustment applied to any, all or none of the eligible items shown on Form C-21C. The Bidder's selection of items for steel price adjustment or non-selection (non-participation) may not be changed once he has submitted Form C-21C to the Department

The Contractor shall use Form C-21C to submit to the State Contract Engineer, no later than 15 calendar days after the date of Contract Award letter, those pay items he chooses to have steel price adjustment applied on. Items the Contractor chooses for steel price adjustment must be designated by writing the word "Yes" in the column titled "Option" by each bid item chosen for adjustment. The Contractor's designations on Form C-21C must be written in ink or typed, and signed by the Contractor to be considered complete. Items not properly designated, or designated with "No" or left blank on the Contractor's C-21C "Bid Items Eligible for Steel Price Adjustment" form will automatically not be considered for adjustment. No steel items will be eligible for steel price adjustment on this project if the Contractor fails to return his Form C-21C on time.

Please note: Inventoried materials from the listing of eligible items are specifically excluded for consideration. Items from the listing of eligible items for which the Contractor has requested payment as Material on Hand according to Section 109.09 are also specifically excluded for consideration past the delivery date to the fabricator. This provision also does not allow for price adjustment for embedded steel where the steel item is a component of the finished bid item and there is no separate or distinct payment for the steel item or for steel used for pre-tensioned or post-tensioned precast components where furnishing steel is included in the unit price of the finished bid item.

This provision shall apply only to material cost changes that occur between the date of the receipt of bids by the Department and the date the material is shipped to the fabricator. The Contractor, subcontractor and/or supplier are required to place their purchase order for the steel items designated in this contract for price adjustment within 30 calendar days after the date of execution of this contract with the Department. The timeliness of the Contractor's response is also to ensure the receipt of such items in a timely manner that shall not adversely affect his progress schedule or contract completion date. The items shall further be specifically stored, labeled, or tagged, recognizable by color marking, and identifiable by project for inspection and audit verification immediately upon arrival at the fabricator.

The Contractor shall submit documentation to the appropriate District Construction Engineer for all items listed in the Contract for which it is requesting a steel price adjustment. This documentation shall consist of material price quotes, bid papers, or other similar type of documentation satisfactory to the Department, and support the completion of the form establishing the average price per pound for the eligible steel bid item. The Contractor must use the format as shown with this provision; no other format for presenting this information will be permitted. The Contractor shall certify that all items of documentation are original and were used in the computation of the amount bid for the represented eligible pay items for the month bids were opened. This documentation shall support the base line material price ("Base Price") of the steel item only. No adjustment will be made for changes in other components of the contract unit bid price, including, but not limited to, fabrication, shipping, storage, handling, and erection.

The Contractor will not be eligible for price adjustment of steel items if he fails to submit specifically required information (i.e., purchase order, price data, bill of lading, material information or other requested information) as noted herein.

Price adjustment of each qualifying item will only be considered if there is an increase or decrease in the cost of eligible steel materials in excess of 10 percent up to a maximum of 60 percent from the Base Price when compared with the latest published price index ("Price Index") in effect at the time material is shipped to the fabricator.

The Price Index the Department is using is based on The U.S. Department of Labor, Bureau of Labor Statistics, Producers Price Index (PPI), which measures the average price change over time of the specific steel eligible item from the perspective of the seller of goods. The specific Producers Price Index (PPI) to be used to adjust the price for the eligible VDOT steel items is shown in the table below. **Please note**: The Producers Price Index (PPI) is subject to revision 4 months after original publication, therefore, price adjustments and payments will not be made until the index numbers are finalized.

Items under consideration for price adjustment will be compared to the steel category index items and the corresponding I.D. numbers shown in the table attached to the end of this provision.

The price adjustment will be determined by comparing the percentage of change in index value beyond 10 percent above or below the index on the bid date to the index value on the date the steel material is shipped to the fabricator (Please see included sample examples). Weights and date of shipment must be documented by a bill of lading provided to the Department. The final price adjustment dollar value will be determined by multiplying this percent increase or decrease in the index (after 10%) by the represented quantity of steel shipped, by the Base Price per pound subject to the limitations herein.

Price increase/decrease will be computed as follows:

$$A = B \times P \times Q$$

Where;

- A = Steel price adjustment in lump sum dollars
- B = Average weighted price of steel submitted with bid on project in $ per pound
- P = Adjusted percentage change in PPI average from shipping date to bid date minus 10% (0.10) threshold
- Q = Total quantity of steel in pounds shipped to fabricator for specific project

Delays to the work caused by steel shortages may be justification for a contract time extension but will not constitute grounds for claims for standby equipment, extended office overhead, or other costs associated with such delays.

The Engineer will determine, and specify in the Work Order, the need for application of the adjustments herein to extra work on an individual basis.

This price adjustment is capped at 60 percent. This means the maximum "P" value for increase or decrease that can be used in the above equation is 50% (60%-10% threshold).

Calculations for price adjustment shall be shown separate from the monthly progress estimate and will not be included in the total cost of work for determination of progress or for extension of contract time.

Any apparent attempt to unbalance bids in favor of items subject to price adjustment may result in rejection of the bid proposal.

20-Jan-05

Sample Form to be turned in for Steel Price Adjustment Provision
(All prices to be supported by project-specific quotes)

BID DATE 28-Apr-04

Bid Item 61720 High Strength Structural Steel

Supplier	Description of material	Unit price f.o.b supplier $/lbs	Quantity In lbs.	Price Extension	Date of Quote
XYZ mill	Structural beams Various sizes (see quote)	$0.28	1,200,000	$336,000.00	21-Apr-04
ABC distributing	Various channel & angle shapes (see quote)	$0.32	35,000	$11,200.00	20-Apr-04
		Total	1,235,000	$347,200.00	
		Average weighted price =		$0.2816	

Note: All prices are to include any surcharges on materials quoted as if they are shipped in the month the bid is submitted. Vendors must include this surcharge along with their base price on their quotes.

v

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

20-Jan-05

Sample Calculation of a Price Adjustment (increase)

Project bid on April 28, 2004.

Project has 450,000 lb. of structural steel.

Orders placed in timely manner and according to contract.

Contractor's *f.o.b. supplier price for the structural steel in bid is $0.2816 per pound. *free on board

Adjusted** BLS Producers Price Index (PPI) most recently published average at time of bid is 139.6.
** final change
after 4 months
All steel shipped to fabricator in same month, October 2004.

Adjusted BLS Producers Price Index (PPI) most recently published average for month of October is 161.1

Adjustment formula is as follows:

A = B X P X Q

Where;
- A = Steel price adjustment in lump sum dollars
- B = Average weighted price of steel submitted with bid on project in $ per pound
- P = Adjusted percentage change in PPI average from shipping date to bid date minus 10% (0.10) threshold
- Q = Total quantity of steel shipped to fabricator in October 2004 for this project in pounds

B = $0.2816

P = (161.1- 139.6)/139.6 – 0.10 = 0.054

Q = 450,000 lb.

A = 0.2816 x 0.054 x 450,000

A = $6,842.88 pay adjustment to Contractor

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

20-Jan-05

Sample Calculation of a Price Adjustment (decrease)

Project bid on April 28, 2004.

Project has 450,000 lb. of structural steel.

Orders placed in timely manner and according to contract.

Contractor's *f.o.b. supplier price for structural steel in bid is $0.2816 per pound. *free on board

Adjusted BLS Producers Price Index (PPI) most recently published average at time of bid is 156.6.

All steel shipped to fabricator in same month, October 2004.

Adjusted BLS Producers Price Index (PPI) most recently published average for month of October is 136.3

Adjustment formula is as follows:

A = B X P X Q

Where;
- A = Steel price adjustment in lump sum dollars
- B = Average weighted price of steel submitted with bid on project in $ per pound
- P = Adjusted percentage change in PPI average from shipping date to bid date minus 10% (0.10) threshold
- Q = Total quantity of steel shipped to fabricator in October 2004 for this project in pounds

B = $0.2816

P = (156.6 – 136.3)/156.6 – 0.10 = 0.030

Q = 450,000 lb.

A = 0.2816 x 0.030 x 450,000

A = $3,801.60 credit to Department

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

MASTER LISTING

STANDARD BID ITEMS ELIGIBLE FOR STEEL PRICE ADJUSTMENT

Sept. 24, 2008 rev # 1added 4 corrosion resistant re-bar items.
Dec. 4, 2008 rev # 2 deleted item 68138 straighten structural steel
January 14, 2009 rev # 3 identified BLS WPU used in $ adjustment **BLS Series I. D.**
March 18, 2009 added items 61813,68109 & 68110

ITEM NUMBER	ITEM DESCRIPTION	UNITS	Number WPU used in $ adjust.
00519	SHEET PILE, STEEL	SF	avg. 1017 & 101
00540	REINF. STEEL	LB	101704
00541	CORROSION RESISTANT REINF.STEEL CL. I	LB	101704
00542	EPOXY COATED REINF. STEEL	LB	101704
00560	STRUCTURAL STEEL JB-1	LB	avg. 1017 & 101
11030	REINF. STEEL BRIDGE APPR. SLAB	LB	101704
11181	PATCH.HYDR.CEM.CONC. PAVE.	SY	101704
13290	GUARDRAIL GR-8 (NCHRP 350 TL-3)	LF	avg. 1017 & 101
13292	GUARDRAIL GR-8A (NCHRP 350 TL-3)	LF	avg. 1017 & 101
13294	GUARDRAIL GR-8B (NCHRP 350 TL-3)	LF	avg. 1017 & 101
13310	GUARDRAIL TERMINAL GR-6 (NCHRP 350)	LF	avg. 1017 & 101
13312	GUARDRAIL TERMINAL GR-7 (NCHRP 350)	EA	avg. 1017 & 101
13315	GUARDRAIL TERMINAL GR-11	EA	avg. 1017 & 101
13320	GUARDRAIL GR-2	LF	avg. 1017 & 101
13323	GUARDRAIL GR-2A	LF	avg. 1017 & 101
13331	RAD. GUARDRAIL GR-2	LF	avg. 1017 & 101
13333	RAD. GUARDRAIL GR-2A	LF	avg. 1017 & 101
13335	GUARDRAIL GR-3	LF	avg. 1017 & 101
13345	ALTERNATE BREAKAWAY CABLE TERMINAL(GR-9)	EA	avg. 1017 & 101
13351	GUARDRAIL GR-8	LF	avg. 1017 & 101
13352	GUARDRAIL GR-8A	LF	avg. 1017 & 101
13353	GUARDRAIL GR-8B	LF	avg. 1017 & 101
13355	GUARDRAIL GR-10	LF	avg. 1017 & 101
13421	MEDIAN BARRIER MB-3	LF	avg. 1017 & 101
13450	MEDIAN BARRIER MB-5	LF	avg. 1017 & 101
13451	MEDIAN BARRIER MB-5A	LF	avg. 1017 & 101
13452	MEDIAN BARRIER MB-5B	LF	avg. 1017 & 101
13545	REINF. STEEL	LB	101704
13594	TRAF. BARR. SER. GUARD RAIL TER. GR-7	EA	avg. 1017 & 101
13594	TRAF.BAR.SER.GD.RAIL TER. GR-7	EA	avg. 1017 & 101
14502	REINFORCING STEEL	LB	101704
15290	PATCH.CEM.CONC.PAVE.TY.CRCP-A	SY	101704
15302	PATCH.CEM.CONC.PAVE. TY. II	SY	101704
15305	PATCH.CEM.CONC.PAVE.TY. IV-A	SY	101704
17323	GUARDRAIL BEAM	LF	avg. 1017 & 101
17325	RADIAL GUARDRAIL BEAM	LF	avg. 1017 & 101
17327	RUB RAIL	LF	avg. 1017 & 101
17342	STEEL TUBE GR-7	EA	avg. 1017 & 101
17348	BREAKAWAY POST GR-7	EA	101704
17353	CABLE GR-3	LF	avg. 1017 & 101
17381	POST (BENT PLATE OR S 75 X 8.5 STEEL) GR	EA	avg. 1017 & 101
22501	FENCE FE-W1	LF	avg. 1017 & 101
22643	FENCE FE-CL	LF	avg. 1017 & 101
22645	FENCE FE-CL VINYL COATED	LF	avg. 1017 & 101
23043	WATER GATE FE-4 TY.III	LF	avg. 1017 & 101

23501	FENCE FE-W1 (FABRIC ONLY)	LF	avg. 1017 & 101
45522	4" STEEL ENCASE. PIPE	LF	101706
45532	6" STEEL ENCASE. PIPE	LF	101706
45562	16" STEEL ENCASE. PIPE	LF	101706
45572	18" STEEL ENCASE. PIPE	LF	101706
45582	24" STEEL ENCASE. PIPE	LF	101706
45584	24" JACKED STEEL ENCASEMENT PIPE	LF	101706
45592	30" STEEL ENCASE. PIPE	LF	101706
50402	SIGN POST STEEL 3"	LF	101706
50404	SIGN POST STEEL 4"	LF	101706
50406	SIGN POST STEEL 6"	LF	101706
50410	SIGN POST STEEL 10"	LF	101706
50412	SIGN POST STEEL 12"	LF	101706
50414	SIGN POST STEEL 14"	LF	101706
50416	SIGN POST STEEL 16"	LF	101706
50418	SIGN POST STEEL 18"	LF	101706
51317	SIG. POLE MP-1 20' ONE ARM 30'	EA	101706
51319	SIG. POLE MP-1 20' ONE ARM 32'	EA	101706
51325	SIG. POLE MP-1 20' ONE ARM 38'	EA	101706
51327	SIG. POLE MP-1 20' ONE ARM 40'	EA	101706
51329	SIG. POLE MP-1 20' ONE ARM 42'	EA	101706
51331	SIG. POLE MP-1 20' ONE ARM 44'	EA	101706
51337	SIG. POLE MP-1 20' ONE ARM 50'	EA	101706
51339	SIG. POLE MP-1 20' ONE ARM 52'	EA	101706
51341	SIG. POLE MP-1 20' ONE ARM 54'	EA	101706
51344	SIG. POLE MP-1 20' ONE ARM 56'	EA	101706
51346	SIG. POLE MP-1 20' ONE ARM 58'	EA	101706
51347	SIG. POLE MP-1 20' ONE ARM 60'	EA	101706
51348	SIG. POLE MP-1 20' ONE ARM 62'	EA	101706
51368	SIG.POLE MP-1 20'TWO ARMS 36'& 42'	EA	101706
51400	SIG.POLE MP-1 CO.LU.ONE ARM 38	EA	101706
51402	SIG.POLE MP-1 CO.LU.ONE ARM 40	EA	101706
51408	SIG.POLE MP-1 CO.LU.ONE ARM 46	EA	101706
51412	SIG.POLE MP-1 CO.LU.ONE ARM 50	EA	101706
51414	SIG.POLE MP-1 CO.LU.ONE ARM 52	EA	101706
51416	SIG.POLE MP-1 CO.LU.ONE ARM 54	EA	101706
51418	SIG.POLE MP-1 CO.LU.ONE ARM 56	EA	101706
51420	SIG.POLE MP-1 CO.LU.ONE ARM 58	EA	101706
51422	SIG.POLE MP-1 CO.LU.ONE ARM 60	EA	101706
55162	LIGHTING POLE LP-1 30'-4'	EA	101706
55163	LIGHTING POLE LP-1 30'-6'	EA	101706
55166	LIGHTING POLE LP-1 30'-12'	EA	101706
55169	LIGHTING POLE LP-1 35'-6'	EA	101706
55171	LIGHTING POLE LP-1 35'-10'	EA	101706
55176	LIGHTING POLE LP-1 40'-8'	EA	101706
55185	LIGHTING POLE LP-2 TYPE A	EA	101706
55186	LIGHTING POLE LP-2 TYPE B	EA	101706
55187	LIGHTING POLE LP-2 TYPE C	EA	101706
55188	LIGHTING POLE LP-2 TYPE D	EA	101706
55189	LIGHTING POLE LP-2 TYPE E	EA	101706
55190	LIGHTING POLE LP-2 TYPE F	EA	101706
55192	LIGHTING POLE LP-2 TYPE H	EA	101706
60452	REINF. STEEL BRIDGE APPR. SLAB	LB	101704
61700	REINF. STEEL	LB	101704
61704	CORROSION RESISTANT REINF. STEEL	LB	101704
61705	EPOXY COATED REINF. STEEL	LB	101704
61711	CORROSION RESISTANT REINF.STEEL CL. I	LB	101704

61712	CORROSION RESISTANT REINF.STEEL CL. II	LB	101704
61713	CORROSION RESISTANT REINF.STEEL CL. III	LB	101704
61750	STRUCT.STEEL HIGH STRG.PLT.GIRDERS	LB	avg. 1017 & 101
61811	STR.STEEL PLATE GIRDER ASTM A709 GRADE50	LB	avg. 1017 & 101
61812	STR.STEEL PLATE GIRDER ASTM A709 GRADE50	LB	avg. 1017 & 101
61813	STR.STEEL PLATE GIRDER ASTM A709 GRADEHPS50W	LB	avg. 1017 & 101
61814	STR.STEEL PLATE GIRDER ASTM A709 GRADEHPS70W	LB	avg. 1017 & 101
61820	STR.STEEL ROLLED BEAM ASTM A709 GRADE 36	LB	avg. 1017 & 101
61821	STR.STEEL ROLLED BEAM ASTM A709 GRADE50	LB	avg. 1017 & 101
61822	STR.STEEL ROLLED BEAM ASTM A709 GRADE50W	LB	avg. 1017 & 101
61990	STEEL GRID FLOOR	SF	avg. 1017 & 101
64110	STEEL PILES 10"	LF	avg. 1017 & 101
64112	STEEL PILES 12"	LF	avg. 1017 & 101
64114	STEEL PILES 14"	LF	avg. 1017 & 101
64768	DRIVING TEST FOR 12" STEEL PILE	LF	avg. 1017 & 101
64778	DRIVING TEST FOR 14" STEEL PILE	LF	avg. 1017 & 101
65200	REINF. STEEL	LB	101704
65204	CORROSION RESISTANT REINF. STEEL	LB	101704
65205	EPOXY COATED REINF. STEEL	LB	101704
65211	CORROSION RESISTANT REINF.STEEL CL. I	LB	101704
65212	CORROSION RESISTANT REINF.STEEL CL. II	LB	101704
65213	CORROSION RESISTANT REINF.STEEL CL. III	LB	101704
67086	PED. FENCE 6'	LF	avg. 1017 & 101
67088	PED. FENCE 8'	LF	avg. 1017 & 101
67089	PED. FENCE 10'	LF	avg. 1017 & 101
68091	CORROSION RESISTANT REINF.STEEL CL. I	LB	101704
68092	CORROSION RESISTANT REINF.STEEL CL. II	LB	101704
68093	CORROSION RESISTANT REINF.STEEL CL. III	LB	101704
68100	REINF. STEEL	LB	101704
68104	CORROSION RESISTANT REINF. STEEL	LB	101704
68105	EPOXY COATED REINF. STEEL	LB	101704
68107	STR.STEEL PLATE GIRDER ASTM A709 GRADE50	LB	avg. 1017 & 101
68108	STR. STEEL PLATE GIRDER ASTM A709 GR50W	LB	avg. 1017 & 101
68109	STR. STEEL PLATE GIRDER ASTM A709 GR.HPS50W	LB	avg. 1017 & 101
68110	STR. STEEL PLATE GIRDER ASTM A709 GR.HPS70W	LB	avg. 1017 & 101
68112	STR.STEEL ROLLED BEAM ASTM A709 GR.36	LB	avg. 1017 & 101
68113	STR.STEEL ROLLED BEAM ASTM A709 GR.50	LB	avg. 1017 & 101
68114	STR.STEEL ROLLED BEAM ASTM A709 GR. 50W	LB	avg. 1017 & 101
68115	STRUCT. STEEL	LB	avg. 1017 & 101
68270	REINF. STEEL BRIDGE APPR. SLAB	LB	101704
69060	SHEET PILES, STEEL	SF	avg. 1017 & 101
69091	CORROSION RESISTANT REINF.STEEL CL. I	LB	101704
69092	CORROSION RESISTANT REINF.STEEL CL. II	LB	101704
69093	CORROSION RESISTANT REINF.STEEL CL. III	LB	101704
69100	REINF. STEEL	LB	101704
69104	CORROSION RESISTANT REINF. STEEL	LB	101704
69105	EPOXY COATED REINF. STEEL	LB	101704
69110	STEEL PILES 10"	LF	avg. 1017 & 101
69112	STEEL PILE 12"	LF	avg. 1017 & 101
69113	DRIVING TEST FOR 12" STEEL PILE	LF	avg. 1017 & 101

SP505-000100-00

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
REPLACEMENT OF GUARDRAIL, MEDIAN BARRIER, IMPACT ATTENUATOR, AND GUARDRAIL TO BRIDGE ATTACHMENTS

August 4, 2016

I. DESCRIPTION

This work shall consist of repairing or replacing damaged guardrail, median barrier, impact attenuators and bridge/guardrail attachments, in accordance with this provision, the plans and as directed by the Engineer.

II. MATERIALS

Guardrail and guardrail components shall conform to Section 505 of the Specifications.

Impact attenuator repair shall use replacement parts from the original manufacturing company.

Sign Panels shall conform to Section 701 of the Specifications.

Guardrail Delineators shall conform to Section 702 of the Specifications.

III. PROCEDURES

The Engineer will preapprove all locations requiring the drilling of holes in bridge railings or fixed objects. The Contractor shall repair any spalling due to the drilling operations in concrete fixed objects or concrete bridge railings and existing holes in concrete shall be patched with materials conforming to Section 218 of the Specifications.

The Contractor shall perform work in accordance with Section 505 of the Specifications, the *Road and Bridge Standards* and the standard drawings for "Recommended Method for Attaching Guardrail to Bridge Rails" (BR-GR). The Contractor may need to modify the method of attachment due to field conditions with the approval of the Engineer.

The Contractor shall reconstruct impact attenuators in accordance with the manufacturers' recommendations.

Pay items with the designation "Install" are materials furnished by the Department for the Contractors use in repair of guardrail installations in accordance with Sections 505 and 510 of the Specifications and as directed by the Engineer. The Engineer will indicate per site the quantity and materials to be installed and the location of the materials for the Contractors use. The Contractor shall make arrangements with the Area Headquarters 48 hours prior to picking up the materials for installation. All sites designated for use of "Install" materials will be within 25 miles of an Area Headquarters.

Damaged and salvaged guardrail materials shall become the property of the Contractor and shall be disposed of in accordance with Section 106 of the Specifications, unless otherwise specified.

All unused or abandoned guardrail post holes shall be backfilled to existing ground level with approved material placed in layers not more than 4 inches in height. Each layer shall be compacted by tamping. All unused or abandoned post holes in paved shoulder shall be backfilled, compacted and sealed with a fine asphalt plant mix no larger than SM-9.5A. No measurement or payment will be made for this work all cost shall be included in other items of work.

Cracks in the shoulder as a result of driving or removing guardrail posts shall be repaired at no additional cost to the Department. In soil or aggregate stabilized shoulders, cracks and voids around the posts shall be filled with like material and thoroughly compacted. In asphalt paved or surfaced treated shoulders, cracks and voids around post shall be filled, compacted, and sealed with fine asphalt plant mix no larger than SM-9.5A. No measurement or payment will be made for this work all cost shall be included in other items of work.

The Contractor shall ensure all existing guardrail and end treatments left in place are correct and all bolts, are torqued properly and cables are taut. GR-9 end treatments with 4” channel shall not be repaired, but shall be replaced with new terminals that conform to Section 505.03 of the Specifications.

All guardrail to be removed shall start at the run off end and proceed to the run on end terminal, unless otherwise approved by the Engineer.

Guardrail installation shall start at the run on end terminal and proceed to the run off end, unless otherwise approved by the Engineer.

All guardrail that is removed during the course of the work day shall be replaced the same work day, unless otherwise approved by the Engineer.

No fixed objects, which includes but not limited to bridge parapet walls, piers, blunt ends, sign structures, shall not be left unprotected. The Contractor shall use an approved NCHRP 350 approved, temporary guardrail terminal or impact attenuator service before the end of each workday to protect traffic from the fixed object. No measurement or payment will be made for temporary guardrail terminal or impact attenuator service, all cost shall be included in other items of work. The Contractor shall plan and prosecute the work accordingly.

No uncompleted sections of guardrail shall be left over weekends or holidays, unless otherwise approved by the Engineer. The Contractor shall plan and prosecute the work accordingly.

All aggregate and other material placed at the guardrail terminal end section shall be included in the pay item "guardrail terminal site preparation," according to Section 505 of the Specifications.

Build-up or debris under existing guardrail in areas where guardrail is to be replaced shall be removed to the original shoulder cross slope, in accordance with the contract Special Provisions.

Reset existing guardrail shall require the removal and disassembly of the existing w-beam and blockouts to redrill the post for the reassembly of the blockouts and w-beam to the required height specified. In the event the existing post or blockouts are determined non-compliance with the standard drawings or specifications new post or blockouts will be required and will be measured and paid for separately.

IV. MEASUREMENT AND PAYMENT

Guardrail, Reuse Guardrail, Radial Guardrail, Median Barrier, Radial Median Barrier, Cable Barrier, Guardrail Terminal, Median Barrier Terminal and **Fixed Object Attachment** will be measured and paid for in accordance with Section 505 of the Specifications.

Remove Guardrail, Reset Guardrail and **Install Guardrail** will be measured and paid for in accordance with Section 510 of the Specifications.

Sign Panel and **Guardrail Delineator** will be measured and paid for respectively in accordance with Sections 701 and 702 of the Specifications.

Drill Hole will be measured in units of each and will be paid for at the contract unit price per each, which unit price shall include drilling of hole, repairing spalled areas, and patching abandoned holes.

Re-Tension Existing Cable GR. will be measured in units of each per cable system and will be paid for at the contract unit bid price per each for the standard specified, which shall include re-tensioning the existing cable.

The items below will include removal and disposal of existing guardrail components in the unit price bid.

Guardrail Post, Guardrail Blockout and **Offset Block** will be measured in units of each for the type and standard specified and will be paid for at the contract unit price per each which price shall include furnishing and installing post, blockout and offset block and hardware.

W Beam Terminal Connector, W Beam End Section and Terminal Connector will be measured in units of each for the standard or type specified and will be paid for at the contract unit price per each, which shall include furnishing and placement, and mounting hardware.

Rubrail will be measured in units of linear feet for the type specified and will be paid for at the contract unit price per linear foot, which shall include furnishing and placement of type rubrail specified, and mounting hardware.

Guardrail Beam and Radial Guardrail Beam will be measured in units of linear feet for the type and standard specified and will be paid for in units of linear foot, which unit price shall include furnishing the type and standard beam specified, and mounting hardware.

Plate will be measured in units of each for the type and standard specified and which unit paid shall include furnishing and placing the specified plate and mounting hardware.

Cable will be will be measured in units of linear feet for the type and standard specified and will be paid for in units of linear foot, which unit price bid shall include furnishing the type and standard cable specified, and mounting hardware.

Realign Post will be measured in units of each and will be paid for at the contract bid price per each, which unit price bid shall include disconnecting and reconnecting rail and realigning the post.

BR-GR Attachment will be measured in units of each, for the type specified per attachment location and will be paid for at the contract unit bid price per each attachment, which shall include furnishing and installing guardrail, blockouts, connector, and hardware.

Steel Tube will be measured in units of each for the type and standard specified and will be paid for at the contract bid price per each, which shall include furnishing and placing of the steel tube, and excavation.

Assembly will be measured in units of each for the type and standard specified and will be paid for at the contract unit bid price per each, which shall include furnishing and placing the specified assembly.

Cable Assembly & Anchor Plate will be measured in units of each for the type and standard specified and will be paid for at the contract unit bid price, which shall include furnishing and installing the cable assembly and anchor plate for the type and standard specified, and hardware.

End Post Caps will be measured in units of each for the standard specified and paid for at the contract unit bid price per each, which shall include furnishing and installing end post caps, and hardware.

Hook Bolt will be measured in units of each for the standard specified and will be paid for at the contract unit bid price per each, which unit price bid shall include furnishing and installing hook bolts.

Angle will be measured in units of each for the type and standard specified and will be paid for at the contract unit bid price per each, which shall include furnishing and installing the specified angle, and hardware.

Soil Plate will be measured in units of each for the standard specified and will be paid for at the contract unit price per each for the standard specified, which shall include furnishing and installing the specified plate, and hardware.

Pipe Sleeve will be measured in units of each for the standard specified and will be paid for at the contract unit price per each for the standard specified, which shall include furnishing and installing the specified pipe sleeve, hardware and removal and disposal of existing pipe sleeve.

Cable Anchor Bracket will be measured in units of each for the standard specified and will be paid for at the contract unit price per each for the standard specified, which shall include furnishing and installing the specified cable anchor bracket, and hardware.

Strut will be measured in units of each for the standard specified and will be paid for at the contract unit price per each for the standard specified, which shall include furnishing and installing the specified strut, and hardware.

Guardrail Extruder will be measured in units of each for the standard specified and will be paid for at the contract unit price per each for the standard specified, which shall include furnishing and installing the specified guardrail extruder, and hardware.

Impact Attenuator Cartridge will be measured in units of each for the original manufacturers' replacement cartridge and will be paid for at the contract unit price per each for the original manufacturers replacement part and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

Nose Section will be measured in units of each for the original manufacturers' replacement nose section and will be paid for at the contract unit price per each for the original manufacturers' replacement part and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

Diaphragm will be measured in units of each for the original manufacturers' replacement diaphragm and will be paid for at the contract unit price per each for the original manufacturers' replacement part and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

Frame will be measured in units of each for the original manufacturers replacement frame and will be paid for at the contract unit price per each for the original manufacturers' replacement part and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

Side Panel will be measured in units of each for the original manufacturers' replacement side panel and will be paid for at the contract unit price per each for the original manufacturers' replacement part and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

Sand Barrel will be measured in units of each for the original manufacturers replacement sand barrel and will be paid for at the contract unit price per each for the original manufacturers replacement parts and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

Reset Existing Guardrail will be measured in units of linear feet and will be paid for at the contract unit price per linear foot. This price shall include removal of guardrail w-beam and blockouts, drilling new hole(s) in the existing post, reinstalling the w-beam and blockouts, with new hardware.

Remove and Relocate Existing Guardrail (Standard) will be measured in units of linear feet for the standard and type specified and will be paid for at the contract unit price per linear foot for the standard and type specified. This price shall include disassembly and removal of guardrail w-beam, post, blockouts, hardware, backfilling existing postholes, repairing damage to shoulders, curbing, curb backup material or concrete, transporting and storing; repairing and installing salvaged beam; and installing guardrail post, blockouts, w-beam, delineators, concrete, and new hardware.

Reuse Existing Guardrail W-Beam (Standard) will be measured and paid for at the contract unit price per linear foot. The price bid shall include salvaging and installing existing W-beam, transporting w-beam to the site, furnishing and installing new post, blockouts, delineators, new hardware.

Payment will be made under:

Pay Item	**Pay Unit**
(Type) Post (Standard)	Each
Guardrail Blockout	Each
Guardrail Beam	Linear Foot
Radial Guardrail Beam	Linear Foot
Cable (Standard)	Linear Foot
Offset Block (Type)	Each
Terminal Connector (Type or Standard)	Each
W Beam End Section (Type)	Each
Rubrail (Type)	Linear Foot
BR-GR Attachment (Type)	Each
Drill Hole	Each
(Type) Plate (Standard)	Each
Realign Post	Each
Steel Tube (Standard)	Each
(Type) Assembly (Standard)	Each
Cable Assembly & Anchor Plate (Standard)	Each
End Post Caps (Standard)	Each
Hook Bolt (Standard)	Each
(Type) Angle (Standard)	Each
Re-Tension Existing Cable GR. (Standard)	Each
Soil Plates (Standard)	Each
Pipe Sleeve (Standard)	Each
Cable Anchor Bracket (Standard)	Each
(Type) Strut (Standard)	Each
Guardrail Extruder (Standard)	Each

Impact Attenuator Cartridge	Each
Nose Section	Each
Diaphragm	Each
Side Panel	Each
Frame	Each
Sand Barrel	Each
Reset Existing Guardrail	Linear Foot
Remove And Relocated Existing Guardrail (Standard)	Linear Foot
Reuse Existing Guardrail W-Beam (Standard)	Linear Foot

SP512-000310-00

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
POLICE ASSISTANCE FOR PAVING OPERATIONS

November 6, 2013c; Reissued July 12, 2016

SECTION 512—MAINTAINING TRAFFIC of the Specifications is amended as follows:

SECTION 512.03—PROCEDURES is amended to include the following:

(z) **Police Assistance for Paving Operations:** Police assistance may be required at times for paving operations in work zones during the life of this contract to ensure the safety of the traveling public and construction personnel. The Contract will specify where police assistance is required according to the following:

1. **Interstate Routes:** Where the Contract specifies State Police assistance is required, VDOT will notify the State Police contact person. VDOT will pay for the uniformed police officer(s).

2. **Major Primary Routes (Traffic Groups XII and above):** Where the Contract specifies police assistance is required, VDOT will notify the police contact person. VDOT will pay for the uniformed police officer(s).

3. **Other Primary Routes:** The Contract will list the locations where police assistance is required and whether it is the Contractor's responsibility or VDOT's responsibility to notify the police contact person and pay for the uniformed police officer(s).

4. **Secondary Routes:** The Contractor will have the option whether to flag intersections or use uniformed police officers if this is not specified otherwise in the Contract. If the Contractor determines police assistance is necessary, he shall obtain this assistance at no cost to VDOT.

   Where VDOT determines police assistance will be required on specific routes, the Contract will list the locations and whether it is the Contractor's responsibility or VDOT's responsibility to notify the police contact person and pay for the uniformed police officer(s). If the Contract does not state the responsible party, VDOT will be responsible.

If during the life of this contract the Engineer determines that police assistance is necessary at a specific location not listed in the Contract, VDOT will notify the police contact person. VDOT will pay for the uniformed police officer(s).

If during the life of this contract the Contractor determines that police assistance is necessary at a specific location not listed in the Contract, he shall notify the police contact person. The Contractor shall obtain this assistance at no cost to VDOT.

SP515-000100-00

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
COLD PLANING (MILLING) ASPHALT CONCRETE OPERATIONS

July 12, 2016

I. DESCRIPTION

This provision shall govern cold planing (milling) asphalt concrete operations in preparation for pavement repair and/or pavement overlay. Cold planing of asphalt concrete pavement shall be performed according to Section 515 of the Specifications and the requirements herein.

II. GENERAL PROCEDURES

The Contractor is permitted to perform either regular pavement planing or performance pavement planing to the Contract specified depth or as directed by the Engineer in order to provide a uniform sound substrate prior to paving roadways designated in the schedules according to Section 315 of the Specifications, the requirements herein, or elsewhere in the Contract.

A. Regular and Performance Planing

The following general conditions apply to either type of cold pavement planing:

Limitations of operations for planing shall be performed according to Section 108.02 of the Specifications, other Contract specific requirements, and as specified herein.

Where the depth of planing designated in the Contract or directed by the Engineer is 2 inches or less, the Contractor shall have the option of planing the abutting lane or shoulder on alternate days or squaring up the planing operation at the end of each work shift. However, abutting lanes or shoulders shall be planed and squared up regardless of planing depth prior to holidays or any temporary shutdowns.

Where the depth of planing designated in the Contract or directed by the Engineer is greater than 2 inches in the Contract, the Contractor shall square up the planing operation at the end of each workday or plane adjacent lanes including abutting shoulders within the same day for the length of that day's planing operation.

The Contractor will not be permitted to plane a portion of the width of a travel lane, ramp, loop or shoulder and leave it unpaved and open to traffic. Abutting shoulders may also be planed during single and multiple lane planing operations. Planing operations shall be planned and performed to maintain positive drainage according to Section 315.05(c) of the Specifications.

In the event an emergency or an unforeseen circumstance such as equipment failure or breakdown occurs during the Contractor's operations and such emergency or unforeseen circumstance within his control prevents the Contractor from squaring up the planed surface on adjacent lanes prior to a holiday or temporary shutdown, any additional signage, traffic control devices or temporary markings or markers required to protect the traveling public shall be the Contractor's responsibility and at his expense.

Where uneven pavement joints exist either transversely or longitudinally at the edges of travel lanes, the Contractor shall provide advance warning signage and traffic control devices to inform the traveling public according to the details provided in the Contract for the scope of operation he is performing. The cost for such advance warning signage and traffic control devices shall be included in the cost of other appropriate items

Where appropriate according to Contract requirements and site specific conditions, the existing asphalt concrete layers shall be planed to permit the transition of the top course of the asphalt concrete overlay according to the details of the ACOT-1 Standard. Any sub-courses termination may be notched into the existing pavement or blended with the next course of pavement.

B. Performance Planing Only Limitations:

When the Contractor elects to performance plane on roadways specified to be planed to a depth of 2 inches or less, the Contractor shall performance plane only that amount of pavement which can be paved back within the time allowance specified herein for completion of planing the roadway or portion of roadway. The Contractor is required to perform pavement surface testing as specified in Section 515.04 of the Specifications to verify the Contractor has achieved the acceptable surface texture specified in that Section prior to opening the performance planed surface to traffic. Additional traffic control devices and signage required for the extended pave back time allowance specified herein for performance planing operations versus the traffic control devices required for the pave back operations for regular pavement planing operations specified herein shall be at the Contractor's expense.

III. ROADWAY CLASSIFICATION LIMITATIONS

The following restrictions, based on the type of roadway, shall apply:

A. All Interstates and other Limited Access Roadways including Ramps and Loops posted at 55 Mph or Greater

1. Regular planing and performance planing in multiple lanes

The Contractor shall plan, execute and maintain pavement planing operations to avoid trapping water on the roadway. On roadways with a combination of 3 or 4 lanes and shoulders (i.e. 2 travel lanes and 1 or 2 shoulders in one direction) where the travel lanes and shoulders will not be completely planed to drain prior to the start of paving operations, planing shall be performed so that water will not pond on the travel surface. When the Contract does not include the removal of the shoulder at the specific roadway planing location, the Contractor shall cut drainage outlets through the shoulder at locations the Engineer designates (excluding curb and gutter sections) for those portions of the planed roadway that are to be opened to traffic. The Contractor shall restore the shoulders to their original grades once paving operations are completed, unless otherwise directed by the Engineer. The cost for cutting and restoring roadway shoulders shall be included in the price bid for other items of work.

On roadways with a combination of 5 or more lanes and shoulders (i.e. 3 or more travel lanes and 2 shoulders in one direction, the extent to which the interior lanes shall be planed will be such that the planed portions can be repaved within the work-zone time limits unless provisions are made to mitigate the ponding of water (i.e., milling adjacent lane(s) and shoulders or cutting drainage outlets through the shoulder).

Ramps and exits shall be planed in such a manner that an even longitudinal joint (elevation difference of greater than 1 inch) is not left for vehicles to cross within the posted speed limits in a "run on" situation. To prevent this, the Contractor can plane ramps and exits to the extent that the joint line between new and existing pavement crossed by traffic is traversed at an angle close to ninety (90) degrees per the ACOT-1 Standard for temporary transverse joints or can perform tapered planing along the ramp/exit longitudinal joint to provide a smooth transition for vehicles to cross, or can square up ramp or exit pavement with the adjacent mainline lane at the time of installation.

The following additional restrictions will apply to roadways where **regular pavement planing** is applicable:

- The Contractor will be limited in the case of regular pavement planing, whether in a single lane or multiple lane operation, to only that amount of pavement that can be paved back within 24 hours of completion of planing that roadway or portion of roadway.

- The Contractor shall pave all roadways, ramps and loops planed during the week before that weekend.

- On roadways with a combination of 4 or more lanes and shoulders (i.e. 2 or more travel lanes and 2 shoulders) in one direction, all travel lanes must be paved back before the weekend. Up to two thousand five hundred (2,500) feet of shoulder may be planed and left over the weekend provided the portion of planed shoulder left unpaved over the weekend is paved within 24 hours after the end of the weekend period.

The following additional restrictions will apply to roadways where **performance pavement planing** is planned by the Contractor:

- Performance planing may be performed in multiple lanes across the entire widths of the lanes up 4 miles of travel lane unless otherwise stated in the Contract. Performance planed travel lanes surfaces must be paved back within 96 hours from the end of the performance planing operation

- Where the Contractor decides to performance plane multiple lanes, the Contractor shall be responsible for furnishing and installing advance warning signage and traffic control devices to inform the traveling public according to the details provided in the Contract. Temporary pavement markings and markers used for lane demarcation on performance planed surfaces will be according to Section 704.04 of the Specifications and the *Special Provision for* ***SECTION 704—PAVEMENT MARKINGS AND MARKERS*** included in the Contract. The cost for such warning devices and advance signage required by multiple lane planing operations shall be included in the cost of other appropriate items unless otherwise specified in the Contract by a specific pay item(s) for separate payment.

B. Non-Limited Access Roadways with an ADT of 10,000 or Greater (Traffic Group XV and above) and a Posted Speed Limit of 45 Mph or Greater

1. Regular planing and performance planing in multiple lanes

The Contractor shall plan and proceed with the pavement planing operation to avoid trapping water on the roadway. On roadways with a combination of 3 or 4 lanes and shoulders (i.e. 2 travel lanes and 1 or 2 shoulders) in one direction where the travel lanes and shoulders will not be completely planed prior to the start of paving operations, planing operations shall be performed so water will not pond on the travel surface. When the Contract does not include the removal of the shoulder, the Contractor shall cut drainage outlets through the shoulder at locations the Engineer designates, excluding curb and gutter sections, for those portions of the planed roadway that are to be opened to traffic. The Contractor shall restore the shoulders to their original grades once paving operations are completed, unless otherwise directed by the Engineer. The cost for cutting and restoring the roadway shoulder shall be included in the price bid for other items of work.

On roadways with a combination of 5 or more lanes and shoulders (i.e. 3 or more travel lanes and 2 shoulders in one direction), the extent of pavement planing on the interior lanes shall be such that the planed surface can be repaved within the timeframe of the work-zone time limits unless provisions are made to mitigate the ponding of water (i.e.planing adjacent lane(s) to mitigate the ponding of water).

The following additional restrictions will apply to roadways where **performance pavement planing** is planned by the Contractor:

- Performance planing may be performed in multiple lanes across the entire widths of the lanes up a total of 4 miles of travel lane unless otherwise stated in the Contract.

- Performance planed travel lane surfaces must be paved back within 10 days from the start of the performance planing operation.

- Where the Contractor decides to performance plane multiple lanes, the Contractor shall be responsible for furnishing and installing advance warning signage and traffic control devices to inform the traveling public according to the details provided in the Contract. The cost for such warning devices and advance signage required by multiple lane planing operations shall be included in the cost of other appropriate items unless otherwise specified in the Contract by a specific pay item(s) for separate payment. Temporary pavement markings required by such operations will be handled according to Section 704.04 and the *Special Provision for* ***SECTION 704—PAVEMENT MARKINGS AND MARKERS*** included in the Contract.

The following additional restrictions will apply to roadways where **regular pavement planing** is applicable:

- The Contractor will be limited whether in a single lane or multiple lane operation, to only that amount of pavement that can be paved back within 24 hours of completion of planing that roadway or portion of roadway.

- The Contractor shall pave all roadways that have been regular planed during the week before that weekend.

- On roadways with a combination of 4 or more lanes and shoulders (i.e. 2 or more travel lanes and 2 shoulders in one direction, all travel lanes must be paved back before the weekend. Up to two thousand five hundred (2,500) feet of shoulder may be planed and left over the weekend provided the portion of planed shoulder left unpaved over the weekend is paved within 24 hours after the end of the weekend period.

C. All Other Roadways

1. Regular Pavement Planing (single or multiple lanes)

If the Contractor elects to perform regular pavement planing the Contractor will be permitted to leave up to two miles of travel lane open to the traveling public provided such planing (milling) is performed across the entire lane width. This same total length restriction will apply in cases where multiple-lane regular pavement planing is permitted in the Contract or allowed by the Engineer. The Contractor will be limited in the case of regular pavement planing, whether in a single lane or multiple lane operation, to only that amount of pavement that can be paved back within 96 hours of completion of planing that roadway or portion of roadway.

2. Performance Pavement Planing

When the Contractor elects to performance plane roadways specified to be planed to a depth of 2 inches or less, the Contractor shall plane only the amount of pavement that can be paved back within 14 calendar days of completion of planing that roadway or portion of roadway. The Contractor is required to perform pavement surface testing as specified in Section 515.04 of the Specifications to verify the Contractor has achieved the acceptable surface texture prior to opening the performance planed surface to traffic. The additional traffic control devices and signage required for the 14 calendar day pave back operation allowance for performance planing operations shall be at the Contractor's expense.

Temporary pavement markings required by such operations will be handled according to Section 704.04 and the *Special Provision for* ***SECTION 704—PAVEMENT MARKINGS AND MARKERS*** included in the Contract.

Roadways on which the roadway edges (i.e. edge milling) are to be planed shall be paved back within 10 days from the completion of the planing operation.

IV. MEASUREMENT AND PAYMENT

Measurement and payment will be according to Section 515.05 of the Specifications.

SP516-000100-00

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
REMOVAL OR CONNECTION OF ASBESTOS CEMENT PIPE

November 7, 2005cc; Reissued July 12, 2016

I. GENERAL

The Contractor is advised that the existing pipe on this project that is scheduled for removal or for connection may contain asbestos. The Contractor shall assume any pipe designated on the plans as asbestos cement (A/C) pipe contains asbestos in a quantity sufficient to be a health hazard if found in a friable condition or made friable during removal or connection. A/C pipe is a "facility component" as defined in 40 CFR 61.141. The U.S. Environmental Protection Agency and the Virginia Department of Labor and Industry consider A/C pipe to be Category II non-friable asbestos-containing materials. Disposal of A/C is regulated by the Virginia Department of Environmental Quality.

II. PROCEDURES

Modifications of, connections to, or removal of A/C pipe that involve breaking, crushing, saw-cutting or abrading shall comply with the VDOT *Special Provision for Asbestos Removal for Road Construction Projects.*

This Special Provision applies to all removal modifications to A/C pipe where the A/C pipe is removed intact by disconnecting at the slip (bell) joint (with no breakage) and where any subsequent connections are made without disturbing the integrity of the existing pipe. If at any time the Contractor determines that the pipe cannot be removed without breakage, abrading, cutting or crushing, the Contractor shall cease work and resume operations according to the VDOT *Special Provision for Asbestos Removal for Road Construction Projects.*

The Contractor shall spray and saturate pipe joints with amended water prior to disturbing any pipe.

No "T"-type connections shall be made to existing pipe by internally piercing or breaking existing potable water pipe without pre- and post-connection monitoring for asbestos fibers in water downstream of the connection. Any results that exceed 7 million fibers per liter (7MFL) shall be reported immediately to the Engineer.

VDOT, at its discretion, may employ an asbestos project monitor to observe and monitor removal operations of intact A/C pipe. If such monitoring determines that asbestos fibers are being released above the applicable action level or the pipe becomes friable, the Contractor shall cease operations on the pipe and take appropriate corrective action to comply with all applicable federal, state, and local regulations.

Removal, connection, hauling, and disposal shall be performed according to 40CFR 61.140-61.157 (Subpart M-National Emission Standard for Asbestos), with 29 CFR 1926.1101 (Subpart Z-Toxic and Hazardous Substances), and with all state, regional, and local standards. The Contractor shall ensure that the intact A/C pipe sections remain intact during loading and hauling of the material to the licensed disposal facility. The Contractor shall double bag or wrap A/C pipe in plastic and seal and mark the materials. The Contractor shall only dispose of the material in a permitted landfill that provides daily soil cover and only after the Contractor has provided notification to the landfill that the material is non-friable/non-regulated ACM. Within 35 days of the deposit of the waste in the landfill, the Contractor shall submit to the Engineer a copy(s) of the certificate of disposal from the landfill. VDOT must receive all acceptable waste manifests/certificates of disposal prior to making payment to the Contractor.

With approval of the Engineer, abandoned portions of A/C pipe may be left in place of origin and backfilled provided that the pipe is not crushed; however, pipe that is scheduled to be abandoned may not be removed and re-deposited. With approval of the Engineer, the Contractor may pump grout into buried lines that are no longer in service to maintain the structural weight bearing capacity of the area. No on-site burial of crushed A/C pipe will be allowed.

III. MEASUREMENT AND PAYMENT

Connection to existing A/C pipe will be measured and paid for at the contract unit price per each for each connection.

Removal of existing A/C pipe (without disturbing integrity of pipe) will be measured and paid at the contract unit price per linear foot for the length of pipe actually removed (back to the closest joint).

Payment for these items shall include all material, labor, and equipment necessary for excavation, disassembly, tie-ins, backfill, line abandonment including grout, documentation and disposal of A/C pipe.

Payment will be made under:

Pay Item	**Pay Unit**
Connection to Existing A/C Pipe	Each
Remove Existing A/C Pipe	Linear Foot

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

SP522-000220-00

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
ASBESTOS REMOVAL FOR ROAD CONSTRUCTION DEMOLITION PROJECTS

March 14, 2017

I. DESCRIPTION

1. The Special Provision shall only apply to the removal of asbestos from structures that will be demolished and not reoccupied. Asbestos removal from any structure that is to be reoccupied (e.g. construction project offices, leased structures, etc.) shall comply with the *Special Provision for the Removal of Asbestos for Re-Occupied Structures*.

2. The Contractor shall furnish all labor, materials, supplies, and equipment necessary to legally remove and dispose of the materials identified in the Department's asbestos inspection reports, as required for removal and abatement.

   All quantities are estimates. The bidder shall be responsible for ascertaining the exact amount of material to be removed and to base their bid on that quantity.

   Payment shall be made for separate layers of similar Asbestos Containing Material (ACM) (e.g. floor tiles, roofing, etc.) only if it is physically separated by one or more layers of non-ACM.

3. This work may require the removal of existing flashing and miscellaneous trim in order to remove asbestos containing materials.

II. DEFINITIONS AND ABBREVIATIONS

1. **ABATEMENT:** Procedures to control fiber releases from asbestos containing building materials. Includes securing the work area, removing the material, and clearing the area and disposal of the material.

2. **ABATEMENT CONTRACTOR:** The company or individual properly licensed in the Commonwealth of Virginia by the Virginia Department of Professional and Occupational Regulations who conducts asbestos abatement activities such as, but not limited to, removal, encapsulation or enclosure of asbestos-containing materials.

3. **AIRBORNE ASBESTOS FIBERS:** Suspended, settling or moving asbestos fibers or fiber bundles in air.

4. **AIR LOCK:** A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area, consisting of two curtained doorways separated by a dead air space of at least four feet.

5. **AIR MONITORING:** The process of measuring the fiber content of a specific volume of air in a stated period of time.

6. **AMBIENT AIR:** Air in an area outside of the asbestos containment area. Areas chosen for air sampling shall not be located near access or egress routes for the project, nor shall they be located in areas known to contain friable asbestos containing materials.

7. **AMBIENT SAMPLING:** Air sampling of an area performed under normal or "as found" activity conditions.

8. **AMENDED WATER:** Water containing a wetting agent or surfactant.

9. **AIHA:** American Industrial Hygiene Association.

10. **ASBESTOS ANALYTICAL LABORATORY:** A laboratory accredited by the National Institute of Standards and Technology (NIST) and licensed by the Virginia Department of Professional and Occupational Regulation to perform analysis of asbestos samples.

11. **ASBESTOS-CONTAINING MATERIAL (ACM):** The material or product containing more than 1% asbestos.

12. **ASBESTOS CONTAINMENT AREA:** An area where an asbestos response action takes place.

13. **ASBESTOS DEBRIS:** Pieces of ACM that can be identified by an accredited inspector through color, texture, or composition, or particulate matter (i.e. dust) to contain more than 1.0% asbestos by volume.

14. **ASBESTOS REGULATED AREA:** An area where asbestos removal operations and some support activities are performed. This area is isolated by physical barriers with warning signs and includes regions where the airborne concentration of asbestos exceeds or can be reasonably expected to exceed the permissible exposure limit.

15. **AREA MONITORING:** Sampling of asbestos fiber concentrations within the asbestos regulated area. Sampling strategy must be designed to yield fiber counts representative of airborne fiber levels in the breathing zone.

16. **AUTHORIZED PERSON OR VISTOR:** The building Owners, or their authorized representative, or any representative of a regulatory, or other agency having jurisdiction over the project.

17. **CATEGORY I, NON-FRIABLE ACM:** Asbestos-containing resilient floor covering, asphalt roofing products, packings and gaskets, and asbestos-containing mastics.

18. **CATEGORY II, NON-FRIABLE ACM:** Asbestos-containing material, excluding Category I Non-Friable ACM, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

19. **CLASS I ASBESTOS WORK:** Activities involving the removal of Thermal System Insulation (TSI) and surfacing ACM and PACM.

20. **CLASS II ASBESTOS WORK:** Activities involving the removal of ACM that is not TSI or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard systems, floor tile and sheeting material, roofing and siding shingles, and construction mastics.

21. **CLEARANCE AIR SAMPLING:** The measurement of airborne asbestos fibers using sampling filters to determine the adequacy and completeness of the asbestos removal actions.

22. **CLEARANCE LEVEL:** 0.01 or fewer asbestos fibers per cubic centimeter (0.01 f/cc) of air.

23. **COMPETENT PERSON:** An individual capable of identifying existing asbestos hazards in the workplace, selecting the appropriate control strategy for asbestos exposure and who has the authority to take prompt corrective measures to eliminate them.

24. **DEMOLITION:** Wrecking or taking out any load-supporting structural member and any related razing, removing, or stripping of asbestos products.

25. **ENCAPSULATION:** The treatment of ACM with a material that surrounds or embeds asbestos fibers in an adhesive matrix to prevent the release of fibers, as an encapsulate creates a membrane over the surface (bridging encapsulate) or penetrates the material and binds its components together (penetrating encapsulate).

26. **ENCLOSURE:** An airtight, impermeable, permanent barrier around ACM to prevent the release of asbestos fibers into the air.

27. **EQUIPMENT ROOM (CHANGE ROOM):** A contaminated room located within the decontaminated area that is supplied with the impermeable bags or containers for the disposal of contaminated protective clothing and equipment.

28. **FRIABLE ACM:** any material containing more than one percent asbestos as determined by polarized light microscopy that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

29. **GLOVEBAG TECHNIQUE** (to be used following all OSHA and EPA rules and regulations): A method with limited applications for removing small amounts of friable asbestos- containing materials from HVAC ducts, short piping runs, valves, joints, elbows, and other nonplanar surfaces in a non-contained work area. The glovebag assembly is a manufactured or fabricated device consisting of glovebag (typically constructed of 6-mil transparent plastic), two inward projecting long sleeve rubber gloves, one inward projecting waterwand sleeve, and internal tool pouch and an attached-labeled receptacle for asbestos waste. The glovebag is constructed and installed in such a manner that it surrounds the object or area to be decontaminated and contains all asbestos fibers released during the removal process. All workers who are permitted to use the glovebag technique must be highly trained, experienced, and skilled in this method. Glovebags must be under negative air pressure during use.

30. **GOOD CONDITION:** condition of Category I non-friable asbestos-containing material wherein the binding of the material has not lost its integrity as indicated by the lack of peeling, cracking, or crumbling of the material.

31. **HEPA FILTER EQUIPMENT:** High efficiency particulate air filtered vacuuming equipment with a filter system capable of collecting and retaining asbestos fibers. Filters shall be 99.97 % efficient for retaining particles and fibers with a minimum dimension of 0.3 micrometer.

32. **LOGBOOK:** A notebook or other book containing essential data and daily project information and daily project diary. This book is kept on the project site at all times.

33. **MINI-ENCLOSURE:** A method with limited applications for removing small amounts of friable asbestos-containing materials typical for small scale, short duration type projects.

34. **NEGATIVE AIR PRESSURE EQUIPMENT:** A portable local exhaust system equipped with HEPA filtration and capable of maintaining constant, low velocity airflow into the contaminated area from adjacent uncontaminated areas.

35. **NIOSH:** National Institute for Occupational Safety and Health.

36. **OWNER:** Virginia Department of Transportation.

37. **PACM:** Presumed ACM

38. **PAT PROGRAM:** Proficiency Analytical Testing Program

39. **PERMISSIBLE EXPOSURE LIMIT (PEL):** The Contractor shall ensure that no employee is exposed to an airborne concentration of asbestos (1) in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA) or (2) in excess of 1.0 fiber per cubic centimeter over a 30 minute period (excursion limit), as determined by the method described in 29 CFR 1926.1101, Appendix A.

40. **PERSONAL MONITORING:** Sampling of asbestos fiber concentration within the breathing zone of an employee (i.e. attached to or near the collar or lapel near the worker's face).

41. **PHASE CONTRAST MICROSCOPY (PCM):** A laboratory analysis method for measuring airborne asbestos fibers (National Institute of Occupational Safety and Health Method 7400).

42. **PROJECT MONITOR:** Individual employed by the Department and licensed by the Virginia Department of Professional and Occupational Regulation to observe and monitor the activities of asbestos abatement contractors on asbestos projects to determine that proper work practices are used and that compliance with all federal, state, and local laws and regulations is maintained.

43. **RACM:** Regulated Asbestos Containing Materials includes:

    A. Friable asbestos material

    B. Category I non friable ACM that has become friable.

    C. Category I non friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, and

    D. Category II non friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

44. **REMOVAL:** All herein-specified procedures necessary to remove asbestos containing materials from the designed areas and to dispose of these materials properly and legally at an acceptable site.

45. **RESPONSE ACTION:** A method, including removal, encapsulation, enclosure, repair, operations and maintenance, to abate asbestos hazards to human health and the environment.

46. **SHOWER ROOM:** A room between the clean room, and the equipment room in the worker decontamination unit with hot and cold or warm running water and suitably arranged for complete showering during decontamination. The shower room comprises an air lock between the contaminated and clean area. Shower water filtration system shall be used to remove asbestos fibers from wastewater.

47. **SURFACING ACM:** Any ACM that is sprayed, troweled on or otherwise applied to surfaces.

48. **SURFACTANT:** A chemical wetting agent added to water to improve penetration.

49. **TIME WEIGHTED AVERAGE (TWA):** Representative samples are required to establish the eight (8) hours time weighted average. The TWA is an eight- (8) hour time weighted average airborne concentration of fibers, as determined according to 29 CFR 1926. 1101, Appendix A. Workshifts, which differ from eight- (8) hour duration, may require adjustments of the standard, which applies.

50. **TSI** – Thermal System Insulation ACM

51. **WASHROOM:** A room between the work area and the holding area in the equipment decontamination area. The washroom comprises an air lock.

52. **WASTE SHIPMENT RECORD:** The shipping document that is required to be originated and signed by the asbestos waste generator and that is used to track and substantiate the disposition of asbestos-containing waste material.

53. **WET CLEANING:** The process of eliminating asbestos-contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with water, and after use, disposing of these tools as asbestos-contaminated waste.

54. **WORK AREA:** Designated rooms, spaces, or areas of the project in which asbestos abatement actions are to be undertaken or which may become contaminated as a result of abatement actions. A contained work area is a work area that has been sealed, covered in plastic and equipped with a decontamination enclosure system. A non-contained work area is an isolated or controlled-access work area that contains ACM, that has not been covered in plastic nor equipped with a decontamination enclosure system.

III. CONTRACT LIMITATIONS

1. Asbestos abatement contractors are not eligible to bid on projects in which individuals or firms employed by or financially affiliated with the Contractor performed the asbestos inspection or sample analyses during the time period in which these activities were completed.

2. Asbestos Project Monitors are not eligible to contract for asbestos inspection, project monitoring or clearance air monitoring work if they are financially affiliated with or employed by the project asbestos removal contractor. The Project Monitor shall only be accountable to Department officials.

3. All laboratories utilized to perform asbestos sampling analyses on projects shall not have a business relationship or any financial affiliation with the Contractors conducting the asbestos removal activities. Individuals performing clearance air sampling shall not be employed by, or have a financial affiliation with, the asbestos removal contractor conducting the asbestos abatement project.

IV. REGULATIONS

1. The Contractor shall comply with all applicable EPA, OSHA, VOSH, and Virginia Department of Professional and Occupation Regulation (DPOR) regulations, and shall follow EPA, VOSH, and OSHA workplace guidelines unless they are shown as not applicable. EPA workplace guidelines include (1) those pertinent sections of Part I and II, EPA guideline document 560/5-85-024, “Guidance for Controlling Asbestos Containing Materials in Buildings”; (2) EPA regulations 40 CFR Part 61 Subparts A and M; and (3) *“ Demolition Practices Under the Asbestos NESHAP”* (TRC Environmental Corporation Work Assignment No. IA2-19). OSHA workplace guidelines include any currently applicable OSHA compliance directives or instructions. In any instance of conflict between the VOSH and OSHA requirements, the VOSH requirements shall take precedence. Any “de minimus” exemptions or reduced requirements for activities involving less than 25 linear feet or 10 square feet of ACM that are provided in the aforementioned references shall not apply to VDOT asbestos removal activities.

2. The Contractor is required to maintain at the job site copies of EPA, VOSH, OSHA, and applicable state and local government regulations regarding the handling of ACM.

3. The Contractor shall remove, transport, and dispose of the ACM from the job site according to Virginia Department of Environmental Quality (VDEQ) regulations and this special provision. The Contractor shall be responsible for generating and maintaining a waste shipment record according to applicable local, state, federal, and disposal facility requirements and shall provide a copy to the Engineer for the Department’s records.

4. The Contractor, its supervisors, and its employees shall be licensed for asbestos abatement activities according to DPOR requirements. A copy of valid license shall be included with the submittals.

V. NOTIFICATIONS

1. Contractor shall make all required notifications at least 20 days prior to beginning removal of asbestos-containing materials. Contractors also performing demolition activities shall also provide the requisite 10 day demolition notifications. Notifications shall be submitted to the Virginia Department of Labor and Industry and the EPA Region III, Land and Chemical Division according to Section 107.01 of the Specifications.

2. The 20 day notification is only required for the removal of RACM or Category II nonfriable ACM that is expected to become, or becomes, friable during removal. If any Category I or Category II non-friable ACM becomes friable during removal, the Contractor shall stop work and make all notifications. The on-site project monitor will determine friability.

3. The Contractor shall give both a 20 day and a 3 full business day notification to the Asbestos Project Monitor, the VDOT Area Construction Engineer, the VDOT District Engineer, and VDOT Project Manager prior to work being performed.

4. If the Contractor is performing structure demolition, the required 10 calendar day demolition notification to the aforementioned addressees pursuant to40 CFR 61.145(b), irrespective of minimum quantity or other exclusions, shall be provided.

VI. COMPETENT PERSON

1. The Contractor shall have a “competent person” (as defined herein) present at all times while work on this contract is in progress. The competent person shall be thoroughly familiar and experienced with asbestos removal, related work, and shall monitor and enforce the use of all safety procedures and equipment and shall be knowledgeable of all EPA, OSHA, NIOSH, DPOR and Virginia Department of Labor and Industry VOSH requirements and guidelines.

2. The competent person shall have a valid asbestos supervisor’s license issued by DPOR in accordance to the provisions of Chapter 5, Article 1 §54.1-500 et seq.

VII. SUBMITTALS

Prior to commencing work, two copies each of the following items, with the exception of the landfill manifest receipts, logs and air monitoring results, shall be submitted to and approved by the Department:

1. **Asbestos Plan:** Submit a detailed plan of the work procedures to be used in the removal of the materials containing asbestos. Such plan shall include the location of the asbestos work areas, layout of change rooms, interface with other trades involved in this project, sequencing of asbestos-related work, disposal plan, type of wetting agent, asbestos sealer, air monitoring and detailed description of the methods to be employed in order to control air pollution. Prior to the start of any asbestos removal work, the Project Monitor must approve this plan. Prior to performing any deviations from the approved plan, the Contractor shall submit a written request to the Department for approval.

2. **Notification:** Provide a copy of the required notification submitted to the Asbestos Control Clerk, Virginia Department of Labor and Industry.

3. **Testing Laboratory:** Provide the name, address, and telephone number of the independent testing laboratory selected for the monitoring of airborne concentrations of asbestos fibers along with a copy of the Commonwealth of Virginia Asbestos Analytical Laboratory License. Also, include evidence that the laboratory is accredited to analyze airborne asbestos fiber counts.

4. **Monitoring Results:** All monitoring results are to be received within 24 hours and retained at the work site where the Owner's representative may review them. Submit copies of these results at the completion of the project.

5. **Landfill:** Submit written evidence (copy of permit) that the landfill selected for disposal is approved for disposal of friable ACM (where friable materials are to be removed and disposed) or for disposal (where Non-friable ACM is to be disposed) by the USEPA and appropriate state or local regulatory agencies. Within 35 days of the deposit of a load of ACM waste from this project at the designated landfill, the Contractor shall submit a copy of the certificates of disposal from the landfill to the Department. The Department shall have received all acceptable waste manifests and certificates of disposal prior to making any payments to the Contractor.

6. **Certificate of Compliance:** A copy of the manufacturer's certificate of compliance with ANSI 9.2 for each brand and model of vacuum, ventilation and other equipment used by the Contractor to contain or remove asbestos fibers.

7. **Qualification of the Contractor's Personnel and Personnel Training:** Prior approval by the Department is required of all proposed asbestos removal personnel. Approval shall be based on review and acceptance of the Contractor's written submittals that all contractor personnel working on this asbestos project:

   A. Have a valid asbestos worker's or supervisor's license issued by DPOR in accordance to the provisions of Chapter 5, Article 1 §54.1-500 et seq.

   B. Have been provided with a respirator fit test according to 29 CFR 1926.1101 at the time of initial fitting, when facial conditions change, and at least annually thereafter for each employee wearing a negative pressure respirator.

   C. Have been trained in the proper procedures to follow in case of an emergency.

8. **Medical Requirements:** Provide certification that the Contractor has an established medical surveillance program in compliance with OSHA regulations 29 CFR 1926.1101. This submittal shall include copies of the physician's statement that each employee (working on this project) is able to perform the required duties while wearing a respirator.

9. **Respirator Program:** Submit a copy of a written respirator program that complies with OSHA regulation 29 CFR 1910.134.

10. **Logs:** Copies of daily progress log and visitor's log.

11. **Safety Data Sheets (SDS):** Copies of SDS shall be provided for any chemical solvents that will be used.

VIII. PERSONNEL PROTECTION

1. **Respirators**
   A. Workers shall wear properly fitted respirators in the work area. Respirator selection shall be based on personal air monitoring as required by 29 CFR 1926.1101. All employees within the work zone shall have respiratory protection consistent with proper respiratory protection factors. Long sideburns, beards, etc., which interfere with proper respirator fit, will not be allowed. However, the Engineer may, at his discretion, allow the Contractor to provide a loose fitting, hood-type powered air purifying respirator (PAPR) for such employees.

   B. All work requiring the use of Class "C" supplied air respirators shall utilize C.G.A. Grade D breathing air or better from a certified air source and copies of the certifications shall be supplied to the Department.

   C. Supplied air respirator systems must include a back-up provision approved for maintaining air flow long enough for escape and decontamination from a contaminated atmosphere in the event of loss of the primary source of breathing air.

2. **Exposure Control/Protective Clothing**

   A. Eating, gum or tobacco chewing, smoking, or drinking shall not be permitted in the asbestos control area.

   B. Workers shall wear protective clothing according to 29 CFR 1926.1101. Use of protective clothing in the asbestos control area shall be mandatory and irrespective of airborne asbestos concentrations or removal quantities.

   C. Contractor shall make available to the Department's representative complete sets of personal protective equipment as required herein for entry to the asbestos control area at any time for inspection of the asbestos control area.

   D. Street clothing shall not be worn inside of the asbestos control area.

   E. All persons who enter the control area shall shower after leaving the control area.

   F. Personnel of other trades not engaged in the demolition and removal of asbestos materials shall not be exposed at any time to airborne concentrations of asbestos.

3. **Equipment:** All air handling equipment shall arrive at the job site in a clean (uncontaminated) condition and will be compliant with ANSI 29.2 specifications.

4. **Caution Signs and Labels:** Provide cautions signs at all approaches to the asbestos control areas containing concentrations of airborne asbestos fibers. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Provide and affix caution labels to all asbestos materials, scraps, waste, debris and other products contaminated with asbestos.

   A. Caution signs shall be in a vertical format conforming to 29 CFR 1926.1101 with a minimum 20-inch by 14-inch size.

   B. Caution labels shall be provided of sufficient size to be clearly legible and conforming to 29 CFR 1926.1101 and 1910.1200(f).

5. **Decontamination Area**

   A. The Contractor shall set up a decontamination area according to 29 CFR 1926.1101.

B. The shower and any other decontamination water shall be drained and filtered to retain particles 5.0 microns or larger, to ensure that contaminated water is not released to uncontaminated areas; showers shall be drained after each use. If wastewater is inadvertently released, it shall be cleaned up as soon as possible to prevent any asbestos in the water from drying and becoming airborne in areas outside the work area. The Contractor shall be responsible for providing any necessary water source.

IX. PROCEDURES

1. General

A. Wet removal procedures shall be utilized.

B. Provide temporary power sources and equipment per applicable electrical code requirements and provide 24-volt safety lighting and ground-fault interrupter circuits as power sources for electrical equipment.

C. Turn off all electricity to the work area other than that required in 1.B.

2. Preparation of Work Areas

A. Work areas shall be prepared according to EPA NESHAP Part 61 Subpart M regulations (as amended), applicable EPA guidance, OSHA 1926.1101 standards, any currently applicable OSHA compliance instructions, and any other applicable guidance.

B. Contractor shall not begin removal procedures until the Project Monitor approves the preparation of work areas as meeting all applicable requirements.

X. ASBESTOS REMOVAL PROCEDURES

1. General Procedures

A. Contractor shall comply with the applicable Class I and Class II work practices for the removal of ACM pursuant to 29 CFR 1926.1101.

B. VDOT will provide (at its expense) a licensed asbestos project monitor to collect preabatement air samples and to inspect and approve the work area preparations before authorizing the Contractor to begin removal. The asbestos project monitor will also inspect and approve completeness of the removal and subsequent cleanup actions in the asbestos control area before the Contractor may remove any barricades. No removal of asbestos is to be conducted without the Project Monitor on-site. The Project Monitor does not have the authority to waive compliance with the requirements of this special provision.

C. The Contractor shall provide personnel to perform air monitoring as required by OSHA (29 CFR 1926.1101) and/ or VOSH regulations.

2. **Specific Work Procedures for Asbestos-contaminated Soil Removal:** Removal of contaminated soils may be required if ACM falls onto unprotected soil. Contamination shall be determined when fragments of ACM are visible as debris or when bulk sample analysis shows an asbestos fiber level in soil greater than 1%. Specific procedures shall be as follows:

A. Construct a decontamination enclosure and seal all openings into the work area with at least one layer of 6-mil minimum polyethylene sheeting.

B. Install negative air system using approved equipment unless the use of negative air system is not practicable. The Department or its representative shall determine practicability.

C. Lightly wet with a surfactant or diluted encapsulate any contaminated soil to be removed.

D. Remove contaminated debris and/or soil to a depth of 4" from the original surface or to hardpan and until all visible debris has been removed.

E. Remove all remaining ACM in the area in conjunction with the contaminated soil removal in a manner as not to re-contaminate the cleaned areas.

3. **Pre- and Post-Removal Inspection and Clearance**

A. The Project Monitor shall collect pre-abatement air samples and must inspect and approve the work area preparations before authorizing the Contractor to begin removal.

B. Clearance for removal of transite exterior siding materials, roofing materials (if applicable), soil, and ACM removed through the use of glove bags shall be evaluated by the Department and shall be completed when all visible ACM has been removed and the area properly encapsulated (if applicable).

C. Clearance for ACM removed in mini-enclosures, and all other removal operations not specifically listed in 4B. shall be achieved when the requirements of Part VII – CLEARANCE AIR MONITORING have been met.

D. The Project Monitor shall inspect and approve removal and cleaning in the asbestos control area before the Contractor may remove barricades.

E. The Contractor shall be held responsible for the cost of re-inspections if the work is determined to not be substantially complete.

4. **Air Monitoring**

A. The Contractor shall perform daily personal air monitoring for asbestos exposure and shall cooperate with the Project Monitor in all testing and sampling activities.

B. The Project Monitor shall inform the Contractor of any area samples outside the containment with results in excess of 0.01 fibers/cc. Contractor shall immediately discontinue operations until the violation is corrected.

C. All laboratory analytical air monitoring results shall be posted at the work site entrance no later than 24 hours after sampling; and copies of the analytical results and signed "Certificates of Analysis" shall be transmitted to the Engineer. The form shall state:

(1) Date and time sampling began.

(2) Flow rate of samples.

(3) Sampling time elapsed.

(4) Concentration of fibers.

(5) Location of area where sample was taken (building, floor, room, area within room).

(6) Activity occurring during sampling (removal, clean up, clean-air, etc.).

(7) Name and phone number of person taking sample.

(8) Name, phone number, and signature of person analyzing sample.

(9) Name and phone number of contractor.

D. Exposure records: The Contractor shall maintain records of any personnel or environmental monitoring required by this specification. Records shall be maintained for a period of at least 30 years and shall be made available upon request to the Secretary of Labor for Occupational Safety and Health, the Director of the National Institute for Occupational Safety and Health, and to authorized representatives of either.

E. Copies of all exposure records and area monitoring records shall be submitted to the Owner at the conclusion of the project.

5. **Cleanup**

A. All external work areas shall be cleared of all construction debris and left in a neat and orderly condition.

B. For internal work areas, the Contractor shall remove visible accumulations of asbestos material and debris and wet clean all surfaces within the work area and clean any other contaminated areas with water or HEPA-filtered vacuum equipment.

C. Contractor shall clean any sealed drums or equipment used in the work area and subsequently remove these from the work areas, via the equipment decontamination enclosure system.

D. The Project Monitor shall make an initial visual inspection of the work area to ensure that the work area is free of visible asbestos debris and; once approved, the Contractor shall subsequently apply one coat of asbestos encapsulating sealer.

E. Contractor shall keep the windows and doors sealed and the decontamination system operational until final clearance is certified. Air filtration/negative pressure systems and decontamination enclosure systems shall remain in operation until the time of the initial inspection and in an operational condition until final clearance is certified.

F. The Project Monitor shall collect clearance air samples according to Part VII of this special provision.

6. **Site Inspection:** VDOT reserves the right to inspect all asbestos removal operations at any time. If any aspect of the work is found inconsistent with this special provision, a stop work order will be issued and operations will be immediately suspended. Until the inconsistency is corrected, any standby time and costs for corrective actions shall be at the Contractor's expense.

7. **Building Contamination:** If the results of the air or surface dust samples indicate that building contamination has occurred as the result of Contractor negligence or poor work practices, the Contractor shall clean the premises at no additional cost to the Department. In addition, the Contractor shall be liable for any damage claims or other legal actions brought against VDOT or it's employees or brought by VDOT or any persons exposed to such contamination.

8. **Disposal of Asbestos Waste:** Procedures for hauling and disposal of waste shall comply with 40 CFR 61 (SUBPART M), state, regional, and local standards. All asbestos waste, scrap, debris containers, asbestos contaminated clothing and equipment that may produce airborne concentrations of asbestos fibers shall be collected and placed in sealed and properly labeled, 6 mil impermeable bags. Sealed impermeable bags of asbestos waste shall be temporarily stored in asbestos waste containers (drums, skips, etc.). This waste material shall be transported in sealed, properly labeled, DOT approved containers and disposed of only at an USEPA or State approved sanitary landfill permitted to receive friable ACM. The procedures for hauling and disposal shall comply with 40 CFR61 (SUBPART M), state, regional and local standards. Sealed plastic bags may be hand placed from containers into the burial site unless the bags have been broken or damaged.

   Damaged bags shall remain in the container and the entire contaminated container shall be buried. Uncontaminated containers may be recycled.

9. **Asbestos Cement (A/C) Pipe:** A/C pipe shall not be ground, broken, crushed, sawed, abraded or handled in a manner which would cause asbestos material to become friable or airborne. Saw-cutting will only be allowed provided that specifically designed saws equipped with high efficiency particulate air filtered vacuums are used. Cuts shall be continuously sprayed with amended water during cutting and the water shall be collected and properly filtered or disposed of.

   With the approval of the Engineer, abandoned portions of A/C pipe may be left in place of origin and back-filled, provided that the pipe is not crushed; however, pipe that is to be abandoned may not be removed and re-deposited. With approval of the Engineer, the Contractor may pump grout into the buried lines that are no longer in service to maintain the structural bearing capacity of the area. No on-site burial of crushed A/C pipe shall be allowed.

XI. **Clearance Air Monitoring**

Clearance air monitoring shall be conducted utilizing the specified sampling techniques whenever an asbestos containment area is utilized to control release of airborne asbestos fibers.

1. **Limitations:** Clearance air sampling techniques shall: (1) be used only in an asbestos containment area with effective negative air filtration; (2) be performed only by individuals meeting the licensing requirements described in Section D 1; and (3) not be initiated until a visual inspection is conducted and visible ACM and asbestos debris have been removed.

2. **Equipment Requirements**

   A. High volume air pumps with necessary peripheral equipment (hoses, connectors, etc) calibrated to draw from four to 10 liters of air per minute through the filter shall be used for air sampling.

   B. Filters shall be 25 millimeter mixed cellulose ester (MCE) filters with a 0.8-1.2 micrometer pore size if the filter is to be analyzed by PCM. Sampling cassettes shall have 50-millimeter extension cowls and shall not have been previously used.

3. **Sampling Procedures**

   A. **Set up**

      (1) Ensure that:

         (a) the area inside the enclosure is visibly clean of all ACM, dust and debris;

         (b) spray encapsulate utilized for lockdown purposes has dried; and

(c) the negative air system is and remains fully operational at a rate of four air changes per hour.

(2) Place the air pumps and sampling cassettes such that each covers approximately the same square footage of floor area, and the exposed filter faces of the sampling cassettes are oriented approximately 45 degrees from the horizontal using tape and clips as necessary to position the sampling cassettes.

(3) Start the pumps and sample for the required time; turning off the air pumps when sampling is completed.

B. **Number of samples:** The minimum required number of sample cassettes for each enclosure site is listed in the table below (each set of samples consists of inside air samples, field blanks, and a sealed blank):

Square Feet of Enclosure	Sample Cassettes (PCM Analysis)	Field Blanks[1]
Less Than 100	2	1
100-500	3	1
500-1000	4	1
1000-10,000	5	1
Greater than 10,000	5 + 1 sample per each 5,000 additional square feet	1

[1]The cap of each field blank cassette is to be removed for not more than 30 seconds and replaced (before air sampling is initiated) near the entrance to each abatement area.

C. **Sampling times:** The run time for each air pump is calculated by dividing the flow rate (1ppm) of the pump into the minimum number of liters of air required to be collected (1200 liters for PCM analysis) to obtain the required number of minutes.

D. **Recording:** A floor plan indicating the locations of the collected sample cassettes, along with a data sheet indicating the project name, project monitor, location of project, date samples were collected, calibrated flows for each air pump, start and stop times for each air pump, the preferred method of analyses specified, and calculated number of liters drawn for each cassette sample, shall be transmitted to the laboratory with the cassette samples to be analyzed. The inclusion of these documents is required when generating reports on final clearance air sampling for the project.

E. **Shipping:** Air sample cassettes shall be shipped in separate containers from bulk samples to prevent sample cassette contamination. Avoid using expanded polystyrene and particle-based packaging materials.

4. **Laboratory Analysis**

A. PCM analysis shall be conducted using the National Institute for Occupational Safety and Health (NIOSH) Method 7400 entitled “Fibers” published in the NIOSH Manual of Analytical Methods, (most current edition).

B. The following minimum information shall be provided by the analytical laboratory to VDOT:

(1) concentration in fibers per cubic centimeter (PCM);

(2) analytical sensitivity used for the analysis;

(3) area analyzed;

(4) volume of air samples;

(5) average grid size opening;

(6) number of grids analyzed;

(7) copy of the count sheet;

(8) type of asbestos;

(9) signature(s) of laboratory analyst;

(10) official laboratory identification; and

(11) floor plan indication location where samples were obtained.

5. **Final Clearance**

A. Final clearance shall be achieved when the concentration of fibers for each of the samples is shown to be less than or equal to 0.01 fiber per cubic centimeter of air.

B. If the results of the clearance samples are above the level specified in 5(A.), the abatement site must be re-cleaned, and new sets of sample cassettes collected and analyzed until the abatement area passes. This process must continue until the abatement area complies with the above standard.

XII. **Measurement And Payment**

For the purposes described herein, asbestos shall be identified by type as either friable, Category II nonfriable (Cat II NF) or Category I non-friable (Cat I NF) not in “good” condition.

Asbestos Removal will be measured and paid for at the contract unit per square foot or linear foot for the type specified. The price bid shall be full compensation for removal and disposal, sampling, testing, analysis, and encapsulation, if required, and for all required documentation and monitoring operations.

Payment for removal and disposal will be made under:

Pay Item	**Pay Unit**
Friable ACM	Square foot or linear foot
Cat II NF ACM	Square foot or linear foot
Cat I NF ACM (not in “good” condition)	Square foot or linear foot

SP700-000180-02

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
MODIFICATIONS TO AASHTO'S SIGN STRUCTURE SPECIFICATION

May 2, 2018

I. GENERAL REQUIREMENTS

Lighting (conventional and high mast), signal (overhead, mast arm and span wire), pedestal poles, overhead (span, cantilever and butterfly) sign structures, and ITS structures (camera poles, dynamic message signs (DMS), etc.) shall conform to the requirements of the AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 6th Edition (LTS-6), 2013 with 2015 interims* as modified by this Special Provision. Any AASHTO Specification optional design parameter noted as "may be used at the discretion of the owner" that are not addressed in this document shall not be used for design.

Modifications to span or height limits shown on the plans shall be approved by the Regional Traffic Engineer.

II. WIND LOADING (LTS-6 Article 3.8 and Appendix C)

1. The alternate method for wind pressures provided in AASHTO Appendix C shall be used. Linear interpolation between wind contours is not permitted. The next higher contour shall be used for design. Reduced forces shall not be used for free swinging traffic signal and free swinging sign wind loadings.

2. **LTS-6 Article C.2** is supplemented with the following: Wind speeds using 50-year mean recurrence shall be used for all conventional light poles, high mast light poles, ITS device support poles, and overhead sign structures (span, cantilever and butterfly).

3. Mast arm signal poles, mast arms, and strain poles shall be designed using the following wind speeds:

VDOT Traffic Operations Region	VDOT Districts Within That Region	Design Wind Speed for strain poles, mast arms, and mast arm poles
Southwest	Bristol, Salem, and Lynchburg	70 MPH
Northwest	Staunton and Culpeper	70 MPH
Northern	Northern Virginia	80 MPH
Central	Richmond and Fredericksburg	80 MPH
Eastern	Hampton Roads	90 MPH

Mast arm signal pole and strain pole foundations shall be designed for wind speeds at the foundation location using the 25-year mean recurrence.

4. For special wind regions in Bristol District shown in Figure 3.8.3-2 of LTS-6, the selection of the design wind speed shall consider localized effects. The minimum design wind speed for 50 year mean in these areas is 90 MPH, 25 year mean in these areas is 80 MPH and 10 year mean in these areas is 70 MPH.

5. For structures elevated above the surrounding terrain (e.g. bridge mounted light pole, overhead sign, and other structures), the height factor shall be increased to account for the increased wind effects.

III. STEEL DESIGN

1. **Laminated Structures (LTS-6 Article C5.1):** Laminated or multi-ply structures shall only be used in tapered sections.

2. **Holes and Cutouts, Unreinforced and Reinforced (LTS-6 Article 5.14.5):** The location and size of hand holes and cutouts shall be in accordance with the details shown in the Standard Drawings. For high mast light poles, the width of unreinforced and reinforced holes and cutouts in the cross-sectional plane of the tube shall not be greater than 50 percent of the tube diameter at that section.

3. **Welding:** A connection detail using a full penetration groove weld with a backing ring may be considered for all traffic structures. For tubes 18" diameter and greater, the backing ring shall be attached at the top and bottom face of the ring using a continuous fillet weld. For tubes less than 18" diameter, the backing ring shall be attached at the bottom face using a continuous fillet weld and the top shall be caulked to provide a thick durable continuous seal. The caulk shall be a durable material approved by the Engineer which is formulated for this type of Industrial application..

4. **Diameter:** Mast arm signal pole structures shall have the following maximum column and arm outside diameters, unless otherwise approved by the Engineer.

Configuration	Arm Length	Design Loading	Max. column diameter at base of column	Max. arm diameter at base of arm
Dual arm	Length of one arm exceeds 70 feet or total length of both arms exceeds 130 feet	Varies (Project specific loads will be provided on the Plans)	22 inches	20 inches
	All other dual-arm structures	Design loading does not exceed Standard Drawing MP-3	20 inches	18 inches
Single arm	> 75 feet	Varies (Project specific loads will be provided on the Plans)	22 inches	20 inches
	≤ 75 feet	"Case 2" loading as per Standard Drawing MP-3	22 inches	20 inches
		"Case 1" loading as per Standard Drawing MP-3	20 inches	18 inches

IV. FATIGUE DESIGN

1. **Fatigue Importance Categories (LTS-6 Article 11.6):** The following fatigue importance categories shall apply to structures:

Fatigue Importance Categories

Structure Type	Span Length[1], ft.	Fatigue Category
All structures supporting dynamic message signs or partial dynamic message signs[3]	All span lengths	Category I
Overhead sign span structure	> 150	Category I
	≤ 150	Category II
Overhead sign cantilever structure	> 50	Category I
	≤ 50	Category II
Overhead sign butterfly structure	All span lengths	Category II
Signal mast arm structure[2]	> 75	Category I
	50 to ≤ 75	Category II
	< 50	No fatigue design required
Overhead signal structure	> 190	Category I
	≤ 190	Category II
High mast light poles	All lengths	Category I
Signal span wires, conventional lights poles and ITS device support poles (excluding DMS)		No fatigue design required

[1]Span length is defined as center-to-center of column(s) for span structure and face-of-column to tip of arm for cantilever and signal structures.
[2]For twin mast arms, the pole, arms and connections shall be designed for the applicable fatigue category for the longest arm attached.
[3]Partial dynamic message signs may be treated as static signs for the purposes of determining Fatigue Category if the dynamic message portion of the sign does not exceed the thickness or weight of an equivalently-sized extruded aluminum sign.

2. **Mitigation Devices (LTS-6 Article 11.6 and 11.7.1):** Mitigation devices shall not be used in lieu of designing for fatigue.

3. **Aluminum light poles (LTS-6 Article 11.6 and 11.7.1):** Internal first and second mode vibration dampeners shall be provided and installed according to the manufacturer's instructions in all cases. External dampeners may be used if approved by the Engineer.

4. **Galloping Loads (LTS-6 Article 11.7.1):** Galloping loads shall not be considered in the design of overhead sign cantilevered structures with four chord trusses, signal mast arm structures, and multi-chord overhead signal structures.

5. **Truck-Induced Gust Loads (LTS-6 Article 11.7.1.3):** Truck induced gust loads shall not be considered in the design of signal mast arm and overhead signal structures.

6. **Vertical Deflection (LTS-6 Article 11.8):** The vertical deflection of the free end of the arm for overhead sign cantilevered structures due to the wind load effects of galloping or truck-induced gusts shall not exceed 8".

V. FOUNDATION DESIGN

The AASHTO Standard Specifications for Highway Bridges, 1996, and the 1997 and 1998 Interim Specifications, as referenced in the AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals*, are modified as follows:

1. **Geotechnical Design:** The factor of safety shall be as follows:

MINIMUM FACTORS OF SAFETY[1]

	Drilled Shaft		
	Overhead Sign Structures and all other types of ancillary structures except for Mast arm traffic Signals	**Mast arm traffic Signals**	**Spread Footing**
Tip resistance/ Bearing pressure	1.75	1.75	2.0
Torsion/Sliding/Skin Friction	2.0[2]	1.3[2]	1.2[3]
Overturning (Broms Method)	2.25	2.25	1.5

[1]The factors of safety shown above already account for the 1.33/1.40 group overload/overstress factor. No reduction shall be applied to the design loading used in the analysis.
[2]Torsion Resistance shall be evaluated as specified by the AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (Seventh Edition, 2014) Section 10.8.3.5- Nominal Axial Compression Resistance of Single Drilled Shafts. A value of 1.0 shall be used in lieu of the resistance factors as shown in Table 10.5.5.2.4-1.
[3]Passive resistance shall be reduced by 50% to limit foundation movement.

In capacity calculations for the foundation design of a drilled shaft, the soil resistance of the top 1.5 feet shall be neglected in the analysis for torsion/skin friction/tip resistance. The full length of the shaft from the ground surface to the tip may be used in overturning/horizontal deflection. The remainder of the shaft may be assumed to be fully effective in supporting applied loads.

2. **Horizontal Deflection:** In lieu of Broms method, COM624P or other commercially available software may be used to evaluate the overturning of shafts and to estimate shaft deflections. For mast arm signals and span wire signals, the total horizontal deflection shall be limited to 0.75 inches at the ground level and the tip of the pile deflection shall not exceed -0.25 inches. For other structures, the total horizontal deflection shall be limited to 0.50 inches at the ground level and the tip of the pile deflection shall not exceed -0.15 inches. The loading used in the analysis shall not be reduced by the allowable overload/overstress factor. The shafts shall be modeled such that the nonlinear flexural rigidity (non-linear EI, or "cracked" section) is accounted for when the horizontal deflections are calculated.

3. **Reinforcement:** Where tremie placement of concrete is anticipated, a minimum spacing of 5 inches or 10 times the size of the largest coarse aggregate whichever is greater shall be provided in both horizontal and vertical direction. For dry shafts, a smaller space of 5 times the size of the largest coarse aggregate may be considered. A dry shaft is when the amount of standing water in the base of the shaft prior to concreting is less than or equal to 3 inches and water is entering the shaft at a rate of less than 12 inches/hour.

SP703-000100-00

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
MAST ARM HANGER ASSEMBLY STD SM-3 AND SMD-2

May 25, 2016; Issued July 12, 2016

I. Description

This work shall consist of furnishing and installing mast arm signal hanger assembly (Standard SM-3) and mast arm sign hanger assembly (Standard SMD-2) for new or relocated signals and signs on mast arms and replacing existing hanger assemblies.

II. Definitions

The following terms are used as follows in this special provision:

1. **Mast Arm Hanger Assembly (Complete)**: An inclusive mast arm hanger assembly that consists of the main mount, swivel plate, mounting system, mounting tube, and miscellaneous hardware items.

2. **Mast Arm Hanger Assembly (Components)**: Main mount, swivel plate, mounting system and miscellaneous hardware items (washers, screws, bolts, or nuts).

3. **Main Mount**: The bracket component that mounts against the mast arm signal pole. Once installed, this component is fixed and is not adjusted.

4. **Swivel Plate**: The bracket component(s) that mate to the main mount. The swivel plate can be adjusted along multiple axis to allow the signal mounting tube to be positioned at different angular orientations. The mounting tube is connected to the swivel plate.

5. **Mounting System**: Stainless steel cables which connect the main mount and mast arm signal pole.

6. **Mounting Tube**: The bracket component that holds the signal head assembly, camera, or sign panel bracing to the swivel plate.

7. **Miscellaneous items**: Other components of the hanger assembly not listed above, including but not limited to: tie back, or tether clamps which fasten the cable to the mounting tube; mounting arms; cover plates; hardware (washers, screws, bolts, or nuts); caps; and seals.

8. **Special Tools**: Unique tools identified by a specific item or product number in the manufacturer's installation instructions

III. Materials

As used below: XX, XXX or xx refers to stainless steel cable length, which shall be determined by the Contractor for the specific mast arm diameter at each installation location; YY or yy refers to the mounting tube length for sign panels, which shall be determined by the Contractor for the specific sign height at each location; ## refers to the channel width, which shall be determined by the Contractor for the specific sign width at each location.

1. **Mast Arm Signal Hanger Assembly (Components) for Relocation or Maintenance Replacement – Signals**
   Mast arm hanger components (main mount, swivel plate, mounting system, and associated miscellaneous items) used for signal relocation or maintenance replacement of signal hanger assemblies shall be of the following or approved equal:

Table 1: MAST ARM SIGNAL HANGER ASSEMBLY (COMPONENTS) FOR RELOCATION OR MAINTENANCE REPLACEMENT - SIGNALS	
MANUFACTURER	**MODEL**
Pelco Products, Inc.	Galaxy, Model AB-3055-XX-SS-PNC
Traffic Hardware & Design	CAN-BRAC, Model CBL-VUB-2CXX-9
General Traffic Equipment Corp.	RM - MAC - XX
Cost Cast, Inc.	Cost Cast Item # 1816-A-CXX
Sky Bracket	SKYBRACKET, Model SS-SBCXX-SCK-VA

2. **Mast Arm Signal Hanger Assembly (Complete) - Signals**
   Complete Mast Arm Hanger Assemblies used for new signals, relocated signals or maintenance replacement of signal hanger assemblies shall be of the following or approved equal:

Table 2: MAST ARM SIGNAL HANGER ASSEMBLY (COMPLETE) – SIGNALS (New Signals, Relocated Signals Or Maintenance Replacement)	
1-SECTION HEAD HANGER ASSEMBLY (IN LINE)	
MANUFACTURER	**MODEL**
Pelco Products, Inc.	Galaxy, Model AG-0125-1-XX-SS-PNC
Traffic Hardware & Design	CAN-BRAC, Model CBL-VUN1-T24-2Cyy-9
General Traffic Equipment Corp.	RM-1000C-XX-1
Cost Cast, Inc.	Cost Cast Item # 1816-G-CXX-24
Sky Bracket	SKYBRACKET, Model SS-SBCXX-18-VA
3-SECTION HEAD HANGER ASSEMBLY (IN LINE)	
MANUFACTURER	**MODEL**
Pelco Products, Inc.	Galaxy, Model AG-0125-3-XX-SS-PNC
Traffic Hardware & Design	CAN-BRAC, Model CBL-VUN1-T46-2Cyy-9
General Traffic Equipment Corp.	RM-1000C-xx-3
Cost Cast, Inc.	Cost Cast Item # 1816-G-CXX-48
Sky Bracket	SKYBRACKET, Model SS-SBCXX-46-VA
4-SECTION HEAD HANGER ASSEMBLY (IN LINE)	
MANUFACTURER	**MODEL**
Pelco Products, Inc.	Galaxy, Model AG-0125-4-XX-SS-PNC
Traffic Hardware & Design	CAN-BRAC, Model CBL-VUN1- T58-2Cyy-9
General Traffic Equipment Corp.	RM-1000C-xx-4
Cost Cast, Inc.	Cost Cast Item # 1816-G-CXX-60
Sky Bracket	SKYBRACKET, Model SS-SBCXX-60-VA
5-SECTION HEAD HANGER ASSEMBLY (CLUSTER)	
MANUFACTURER	**MODEL**
Pelco Products, Inc.	Galaxy, Model AG-0138-XX-SS-PNC
Traffic Hardware & Design	CBL-VUN2-14-T37-2CXX-9
General Traffic Equipment Corp.	RM-5C-5000C-xx
Cost Cast, Inc.	Cost Cast Item # 1816-G-CXX-5X
Sky Bracket	SKYBRACKET, Model SS-SBCXX-SCB-46-VA

3. **Mast Arm Sign Hanger Assembly (Components) for Relocation or Maintenance Replacement – Signs**

Mast Arm Hanger Assembly components (main mount, swivel plate, mounting system, and associated miscellanies items) used for sign relocation or maintenance replacement of sign hanger assemblies shall be of the following or approved equal:

Table 3: MAST ARM SIGN HANGER ASSEMBLY (COMPONENTS) FOR RELOCATION OR MAINTENANCE REPLACEMENT - SIGNS

MANUFACTURER	MODEL
Pelco Products, Inc.	Galaxy, Model AB-3055-XX-SS-PNC 1-Bracket per 16 Sq. Ft. of sign panel spaced per manufacturer's installation instructions
Traffic Hardware & Design	CBS-HU-Exx-2Cyy-3 1-Bracket per 20 Sq. Ft. of sign panel spaced per manufacturer's installation instructions
General Traffic Equipment Corp.	RM-MAC-XX 1-Bracket per 15 Sq. Ft. of sign panel spaced per manufacturer's installation instructions
Cost Cast, Inc.	Cost Cast Item # 1816-A-Cxx 1-Bracket per 16 Sq. Ft. of sign panel spaced per manufacturer's installation instructions
Sky Bracket	SKYBRACKET, Model SS-SBCXX-SCK-VA 1-Bracket per 13 Sq. Ft. of sign panel spaced per manufacturer's installation instructions
Xcessories Squared	PAX2PC30-XXX and PASCL316-XXXX 1-Bracket per 10 Sq. Ft. of sign panel spaced per manufacturer's installation instructions

4. **Mast Arm Sign Hanger Assembly (Complete) - Signs**
Complete Mast Arm Hanger Assemblies used for new signs, relocated signs or maintenance replacement of sign hanger assemblies shall be of the following or approved equal:

Table 4: MAST ARM SIGN HANGER ASSEMBLY (COMPLETE) – SIGNS
(New Signs, Relocated Signs Or Maintenance Replacements)

MANUFACTURER	MODEL
Pelco Products, Inc.	Galaxy, Model AG-0142-XX-XX-SS-PNC Galaxy, Model AG-0144-XX-XX-SS-PNC 1-Bracket per 16 Sq. Ft. of sign panel spaced per manufacturer's installation instructions
Traffic Hardware & Design	CAN-BRAC, Model CBS-HU-Exx-2Cyy-3 1-Bracket per 20 Sq. Ft. of sign panel spaced per manufacturer's installation instructions
General Traffic Equipment Corp.	SMA - 3000 – XX 1-Bracket per 15 Sq. Ft. of sign panel spaced per manufacturer's installation instructions
Cost Cast, Inc.	Cost Cast Item # 1816-N-CXX-YY 1-Bracket per 16 Sq. Ft. of sign panel spaced per manufacturer's installation instructions
Sky Bracket	SKYBRACKET, Model SS-SBXX-SBK-XXTK-##-VA 1-Bracket per 13 Sq. Ft. of sign panel spaced per manufacturer's installation instructions
Xcessories Squared	PAX2PC30-XXX and PASCL316-XXXX 1-Bracket per 10 Sq. Ft. of sign panel spaced per manufacturer's installation instructions

IV. Procedures

All work shall be accomplished according to the manufacturer's installation instructions. Only the tools, special tools, and anti-seize lubricants specifically noted in the manufacturer's installation instructions shall be used. If the Contractor deviates from the manufacturer's installation instructions, the Contractor shall provide documentation from the manufacturer authorizing such deviations, including the use of alternate tools.

If a bolt tightening sequence is not specified in the manufacturer installation instructions, bolts shall be tightened in an alternating pattern for even compression.

If a main mount with fully tightened bolts requires adjustment that necessitates loosening of the main mount bolts, the mounting system and associated hardware for the mounting system (washers, screws, bolts or nuts) shall be replaced at no additional cost to the Department.

1. **Tools**: If maximum torque values are provided in the manufacturer's installation instructions, a calibrated torque wrench shall be used to verify that torque has not been exceeded. The Contractor shall calibrate torque wrenches in accordance with torque wrench manufacturer recommendations at the interval recommended by the torque wrench manufacturer. The torque wrench calibration testing lab shall be ISO, or ANSI accredited for instrument calibration.

   If special tools are identified in the manufacturer's instructions as being either required or recommended for installation the Contractor shall furnish no less than one set of tools to the Engineer per ten mast arm hanger assemblies or portion thereof, unless otherwise specified in the contract documents.

2. **Packaging**: All required components of each hanger assembly, except the mounting tube, shall be packaged as one set. The mounting tube may be packaged separately. If special tools are required, or recommended, they may be packaged separately. Under no circumstances shall the parts from multiple assemblies be mixed.

3. **New Signal or Sign Installations**: A Mast Arm Hanger Assembly (Complete) shall be used - see Table 2 for signals and Table 4 for signs.

   The Mast Arm Hanger Assembly (Complete) may be attached to the mast arm and all bolts tightened to final tightness before lifting and placing the mast arm onto the signal pole (i.e. on the ground- attached to the mast arm prior to installation of the mast arm).

4. **Relocate Existing Mast Arm Hanger Assemblies for Signals or Signs**: Existing Mast Arm Hanger Assemblies (main mount, swivel plates, mounting systems and all associated miscellaneous items) that are in service before the commencement of any project shall not be relocated on the same mast arm or reused on a different mast arm.

   The initial relocation of each existing signal or sign from its location at commencement of the project (Location A) to a new location on a mast arm (Location B) may be accomplished using one of the following at the new location on a mast arm:

   a. A new Mast Arm Hanger Assembly (Complete) – see Table 2 for signals and Table 4 for signs or

   b. New Mast Arm Hanger Assembly (Components) – see Table 1 for signals and Table 3 for signs. Existing mounting tubes, cover plates, tie backs, and tether clamps may be reused if they are compatible with the new components;

   Subsequent relocations of the signal or sign from Location B to another location may be accomplished by the Contractor using one of the following at the new location on a mast arm:

a. A new Mast Arm Hanger Assembly (Complete) – see Table 2 for signals and Table 4 for signs; or

b. New Mast Arm Hanger Assembly (Components) – see Table 1 for signals and Table 3 for signs. Existing mounting tubes, cover plates, tie backs, and tether clamps may be reused if they are compatible with the new components; or

c. New mounting system. The existing hanger assembly equipment installed for the initial relocation from Location A to Location B may be reused.

5. **Modify Existing Hanger Assembly**: Modifying an existing mast arm hanger assembly at the same location on a mast arm shall be accomplished in accordance with the following:

   New Mast Arm Hanger Assembly (Components) – see Table 1 for signals and Table 3 for signs. Existing mounting tubes, cover plates, tie backs and tether clamps may be reused if they are compatible with the new components;

6. **Remove Existing Hanger Assembly**: Removing and disposing of an existing hanger assembly or components shall be in accordance with Section 510 of the Specifications.

7. **Prosecution of Work**: The Contractor shall prosecute work in accordance with Section 703.03 of the Specifications.

   While performing this work, if the Contractor discovers any mechanical or electrical problems with the signals, or discovers any problems that require immediate repair, the Contractor shall log each problem by intersection and signal head and advise the Engineer immediately. The Engineer will instruct the Contractor how to proceed.

   The Contractor shall exercise caution during prosecution of work to prevent damage to any existing wiring, or signal component. If the Contractor damages any existing wiring, or signal equipment, repair and replacement shall be at no additional cost to the Department.

V. Reporting

For each mast arm hanger assembly (Complete or Components) installed, the Contractor shall submit the attached Mast Arm Bracket Installation Report form to the Engineer. The form shall also be submitted to the Department's email hangerassemblies@vdot.virginia.gov.

Hard copy submission of the Mast Arm Bracket Installation Report to the Engineer shall not substitute for reporting to the required email address. The Mast Arm Bracket Installation Report shall be submitted within 7 business days of mast arm hanger assembly installation.

By submitting the report, the Contractor certifies that the mast arm hanger assembly installation was accomplished in strict conformance with these specifications.

Reporting will not be measured for separate payment but shall be considered incidental to the mast arm hanger assembly work.

VI. Warranty

The Contractor shall furnish a manufacturer warranty for the Complete Mast Arm Hanger Assembly or installed components to cover defects for a minimum of three years from the date of installation. The warranty shall include providing replacements, within 10 calendar days of notification, for defective parts and equipment at no additional cost to the Department. When the warranty normally given by the manufacturer is longer than three years, the manufacturer's normal warranty shall be furnished.

VII. Measurement and Payment

Mast Arm (Type) Hanger Assembly (Standard) will be measured in units of each for the standard and type specified to be paid for at the contract unit price per each. This price shall include furnishing and installing Mast Arm Hanger Assembly (Complete), including the main mount, swivel plate, mounting system, mounting tube, miscellaneous items, reporting, and special tools (when required).

Remove Existing Traffic Signal Head Assembly will be measured in units of each and will be paid for at the contract unit price per each. Signal head assembly is defined as one or more traffic signal head sections (vehicular or pedestrian) assembled as one unit. This price shall include disconnecting the signal head assembly from existing conductor cables, removing the signal head assembly and backplate, removing and disposing of hanger assembly, and removing all associated mounting equipment, hardware, and accessories. If the traffic signal head assembly is to be reinstalled, the price also shall include reconnecting signal cables. When designated in the contract for salvage or if salvage is directed by the Engineer, this price shall include storing, protecting, and delivering to a designated Department facility.

Relocate Existing Mast Arm (Signal or Sign) will be measured in units of each and will be paid for at the contract price per each. This price shall include removing and relocating an existing traffic sign, signal head, or pedestrian signal head from an existing to proposed location, disconnecting and reconnecting conductor cables, adjusting or relocating conductor cables, removing and disposing or salvaging the existing mast arm hanger assembly, installing a new Mast Arm Hanger Assembly (Complete) or installing new Mast Arm Hanger Assembly (Components) and relocating or replacing existing miscellaneous items.

When relocation of signals or signs is accomplished when maintenance of the traffic signal is the responsibility of the Contractor as specified in Section 512 for the items Modify Signal or Temporary Traffic Control Signal, relocating existing mast arm hanger assemblies for signals or signs will not be measured separately and the cost thereof shall be included in the contract unit price of Modify Signal or Temporary Traffic Control Signal.

Modify Existing Mast Arm Hanger Assembly (Type) will be measured in units of each and will be paid for at the contract price per each. This price shall include removing an existing traffic sign, signal head, or pedestrian signal head from the existing hanger, furnishing new hanger assembly components, disconnecting and reconnecting conductor cables, removing, salvaging, and disposing of existing mast arm hanger assembly components, installing new Mast Arm Hanger Assembly (Components) and reusing or replacing existing miscellaneous items.

Payment will be made under:

Pay Item	Pay Unit
Mast Arm (Type) Hanger Assembly (Standard)	Each
Remove Existing Traffic Signal Head Assembly	Each
Relocate Existing Mast Arm (Signal or Sign)	Each
Modify Existing Mast Arm Hanger Assembly (Type)	Each

Form TE-100, VDOT Mast Arm Bracket Installation Report July 2016			VDOT MAST ARM BRACKET INSTALLATION REPORT								
Date Installation Completed	Contractor Name	Installer Name	Bracket Location (1 is closest to the pole. Include sign and signal head brackets. See sketch.)	County/City	Project Number/CSC	Bracket Type (Signal or Sign)	Model Name and Number	Approach Direction (N, NE, E SE, S, SW, W, NW)	Coordinates (Enter to 6-decimal places, do not include "+", "-", "N", or "W" designations)	
									Latitude (Values should be between 36.5 and 39.5)	Longitude (Values should be between 75.3 and 83.7)
Examples										
1/2/2016	ABC Contracting	Joe Jones	4	King George		Signal	GTE RM-MAC-XX	W	37.625415	79.548621
1/2/2016	ABC Contracting	Joe Jones	6	King George		Sign	GTE RM-MAC-XX	W	37.625415	79.548621

Digital Form found at http://www.virginiadot.org/business/traffic_signal_brackets.asp

SP705-000100-00

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
LIGHT EMITTING DIODE (LED) LUMINAIRES

July 27, 2018

I. Description

This work shall consist of furnishing and installing LED luminaires for roadway lighting systems (conventional poles, wall mounted, high mast, and overhead sign lighting) not including tunnel lighting, in accordance with this Special Provision, as shown on the Plans, and as directed by the Engineer.

II. General Requirements

The luminaire shall be designed and assembled by the same manufacturer. The luminaire manufacturer shall be ISO 9001 certified or with a documented quality management system of equal stringency and shall have at least five years of experience in manufacturing LED roadway luminaires.

The Independent laboratory used for the luminaire testing shall be on OSHA's current list of Nationally Recognized Testing Laboratories (NRTLs). The testing laboratory shall be located within the continental United States or Canada.

The luminaire shall be UL listed or have a documented quality management system of equal stringency. The luminaire shall be DesignLights Consortium (DLC) listed or Energy Star certified.

III. Materials

All electrical and electronic components of the luminaire shall be compliant with Restriction of Hazardous Substances (RoHS) Directives.

All electrical and electronic components of the luminaire shall meet IEEE C62.41.1, IEEE C62.41.2, and ANSI C136.2 requirements.

The luminaire shall include quick connect/disconnect plugs between separate electrical and electronic components. Wiring within the electrical enclosure shall be NFPA 70/ NEC compliant.

The luminaire shall use a barrier-type terminal block with three line-side wire connectors (including a ground terminal) for power connection to the luminaire. All terminal positions shall be clearly identified. Each connector shall accept only one conductor and accommodate #8 through #12 AWG wire.

The luminaire operating temperature shall include the range of -40°F (-40°C) to 104°F (40°C), with no lumen de-rating from -4°F (-20°C) through 77°F (25°C). The luminaire shall have a passive cooling method (heat sink).

The contact surface between dissimilar metals shall be in accordance to the Section 700 of the Specifications.

1. **Luminaire Housing** shall be constructed of aluminum alloy, die-cast or extruded with minimum shell thickness of 0.050 inches (50 mils). Other materials may be used if proven to have equal or greater strength, ultraviolet and corrosion resistance, and are approved by the Engineer.

Bolts, studs, nuts, set screws, washers, and rivets shall be furnished as commercial items suitable for the application and in accordance with the manufacturer's instructions.

Exposed hardware on the housing including cover and latch shall be stainless steel, zinc, or steel with a zinc alloy electroplate and chromate top coat. Other materials may be used if proven to have equal or greater strength, ultraviolet and corrosion resistance, and are approved by the Engineer.

The housing shall include a corrosion resistant polyester powder coat with a minimum of 2 mil nominal thickness. The finish shall exceed a rating of 8 according to ASTM D1654 after 1000 hours of the salt (fog) testing in accordance with ASTM B117.

If non-metallic materials are used for the housing, the coating may not be required if approved by the Engineer and provided the surface of the housing can demonstrate equal or greater strength, and ultraviolet resistance. The testing procedure shall be in accordance with ASTM G154 or G155.

The housing shall be constructed as one integral piece (with the exception of the high mast luminaire). The electrical and the optical compartment shall not be connected using bolts or any other separable means.

The luminaire housing shall protect the interior against dust, solid objects, and moisture.

The housing shall be designed to allow water shedding and resist the build-up of debris and icicles.

The housing shall have an exterior label stating "LED" and wattage in accordance with ANSI C136.15 and must be visible from the ground.

The housing color shall be gray unless otherwise specified on the Plans.

2. **Optical Assembly** shall be completely sealed and the ingress protection (IP) shall be rated IP66 or higher.

   The LED assembly shall have a minimum L70 of 100,000 hours at the specified LED drive current and ambient temperature of 77°F (25°C) based on a minimum of 10,000 hours of data per IES LM-80 and the IES TM-21.

   The optical assembly shall have a color rendering index (CRI) of at least 70

   Polymer refractive materials shall be UV-inhibited high impact plastic and lens shall be high-impact borosilicate glass or UV-stabilized acrylic. Other materials may be used if proven to have equal or greater strength, ultraviolet and corrosion resistance, and are approved by the Engineer.

3. **Driver** shall be secured inside the housing and suitable for use in wet locations.

   The driver shall have a dimming control signal of 0 to 10V in accordance with IEC 60929.

   The driver shall be rated for operation and storage within an ambient temperature range of -40°F (-40°C) to 104°F (40°C) of the luminaire.

   The driver shall be UL listed and shall meet FCC electrical interference emission and immunity requirements.

The driver shall conform to the following performance requirements:

- Rated life of 100,000 hours minimum at an ambient temperature of 77°F (25°C).
- Power factor of 0.9 or higher, with total harmonic distortion of 20% or less at full load.
- Minimum efficiency of 90% at maximum load and a minimum efficiency of 85% for the driver operating at 50% power
- Accommodate input voltages of 120V – 277V or 347V – 480V.
- Have thermal overload protection mechanism.

4. **Surge Protection Device (SPD)** shall be an integral part of the luminaire and the LED power supply. The SPD shall be Type 4 in accordance with UL 1449.

   The SPD shall be rated at minimum 10KV/5KA surge level.

   The SPD shall operate with no performance degradation within an ambient temperature range of -40°F (-40°C) to 104°F (40°C) of the luminaire, 0-95% Relative Humidity (RH), non-condensing.

5. **Warranty**

   The luminaire shall be warranted by the manufacturer for a minimum of 10 years from date of installation against any failure resulting from materials, and defects.

   Failure is defined as one or more of the following:

   - Significant light output reduction from more than 10% of the LED packages
   - Moisture inside the optical assembly
   - Lens discoloration
   - Driver failure
   - Presence of other conditions that do not meet specifications.

6. **Additional criteria** shall be applied to specific type of luminaires as indicated below:

   A. **Conventional Pole-mounted Luminaire**

      (1) Shall have a system efficacy of at least 100 lumens/watt.

      (2) Weight shall not exceed 50 pounds.

      (3) Effective projected area (EPA) of maximum 3 square feet.

      (4) Shall conform to the requirements of ANSI C136.31 for vibration and be rated at least 3G.

      (5) The optical assembly shall be rated correlated color temperature (CCT) of 3000 or 4000 Kelvin (K) in accordance with ANSI C136.37.

(6) Shall include a prewired 7-pin twist lock ANSI C136.41-compliant receptacle and a rain-tight shorting cap.

(7) Shall be designed to slip-fit onto a nominal 2-inches inside diameter or 2-3/8-inches outside diameter tenon and allow for an insertion of at least 3-1/2 inches, with internal barrier preventing over-insertion of the tenon.

(8) Shall include clamp with minimum four appropriate size bolts in accordance with the manufacturer's instructions, unless otherwise directed by the Engineer.

(9) Shall include a leveling device for horizontal or vertical orientation.

(10) The housing shall include a door that is easy to open and close, or remove and replace without requiring any tool.

B. **Wall mounted Luminaire**

(1) Shall have a system efficacy of at least 70 lumens/watt.

(2) Weight shall not exceed 30 pounds.

(3) Conform to the requirements of ANSI C136.31 for vibration and be rated at least 1.5G

(4) The optical assembly shall be rated CCT of 3000K or 4000K in accordance with ANSI C136.37.

(5) Shall be equipped with 0 to 10V field-adjustable output module for dimming capabilities if required on the Plans or directed by the Engineer.

(6) Shall be designed such that it can be mounted onto a vertical flat surface by means of at least three appropriate size bolts with approved chemical or mechanical anchors through the wall side of the housing, in accordance with the manufacturer's instructions, unless otherwise directed by the Engineer.

(7) Shall include a wire entry for the incoming power on the top, bottom, back, or vertical sides as required on the Plans. Each entry shall be pre-manufactured and tapped for a standard conduit connection. Unused entries shall be properly closed with screw type plugs supplied by the manufacturer.

(8) The housing shall include a door that is easy to open and close, or remove and replace without requiring any tool.

C. **High Mast Luminaire**

(1) Shall have a system efficacy of at least 100 lumens/watt.

(2) Weight shall not exceed 70 pounds.

(3) EPA of maximum 3.1 square feet.

(4) Conform to the requirements of ANSI C136.31 for vibration and be rated at least 3G

(5) The optical assembly shall have a rated CCT of 3000K or 4000K in accordance with ANSI C136.37.

(6) Shall include a prewired 7-pin twist lock ANSI C136.41 compliant receptacle and a rain-tight shorting cap.

(7) Shall be adjustable and designed to slip-fit onto a mast arm mount from a nominal 1-1/4-inches to 2-inches inside diameter and 1-5/8-inches to 2-3/8-inches outside diameter tenon and allow for an insertion of at least 3-1/2 inches, with an internal barrier preventing over insertion of the tenon.

(8) Shall include clamp with at least four bolts specified by the manufacturer unless otherwise directed by the Engineer.

(9) The housing shall include a door that is easy to open and close, or remove and replace. The door may require a basic tool (such as a flat-tip or phillips screwdriver) to open and close.

D. **Overhead Sign Lighting Luminaire**

(1) Shall have a system efficacy of at least 70 lumens/watt.

(2) Weight shall not exceed 30 pounds.

(3) EPA of maximum 0.75 square feet.

(4) Conform to the requirements of ANSI C136.31 for vibration and be rated minimum 3G

(5) The optical assembly shall be rated CCT of 3000K in accordance with ANSI C136.37.

(6) Shall be equipped with 0 to 10V field-adjustable output module for dimming capabilities if required on the Plans or directed by the Engineer.

(7) Shall be designed such that it can be installed onto one of the following types (as per the Standard Drawing OSS-1):

- Retrieval system
- Mounting Bracket

(8) The housing shall include a door that is easy to open and close, or remove and replace without requiring any tool.

IV. Procedures

The Contractor shall securely install the luminaires at locations designated on the Plans, in accordance with the manufacturer's instructions.

Overhead sign lighting luminaires shall be installed as per the Standard Drawing OSS-1. If indicated on the Plans, the sign lighting luminaires shall be mounted on luminaire retrieval systems. The Contractor shall demonstrate the functionality of the luminaire retrieval system in the presence of the Inspector. Sign lighting luminaires to be installed without a luminaire retrieval system shall be attached to luminaire mounting brackets.

High mast luminaire and ring assemblies shall be installed and tested in accordance with Section 705. High mast luminaires shall be rotated to maximize illumination on the road and minimize illumination outside the right-of-way, as indicated on the Plans and as directed by the Engineer.

The Contractor shall perform testing of the electrical components in accordance with Section 705 of the Specifications.

V. Measurement and Payment

Conventional luminaire will be measured in units of each and will be paid for at the Contract unit price for the wattage and type specified. This price shall include the luminaire housing, slipfitter, optical assembly, drivers, terminal block, surge protection device, labeling, conductor cables to the termini at the base of the pole or junction box, 7-pin receptacle with shorting cap, photo electric control, adjustments, testing, warranty, and incidental hardware to complete the work.

Wall-mounted luminaire will be measured in units of each and will be paid for at the Contract unit price for the wattage and type specified. This price shall include the luminaire housing, mounting hardware, optical assembly, drivers, terminal block, surge protection device, labeling, conduit, conductor cables to the termini at the junction box, adjustments, testing, warranty, and incidental hardware to complete the work.

High mast luminaire will be measured in units of each and will be paid for at the Contract unit price for the wattage and type specified. This price shall include the luminaire housing, slipfitter, optical assembly, drivers, terminal block, surge protection device, labeling, conductor cables to the termini at the base of the pole or junction box, 7-pin receptacle with shorting cap, photoelectric control, adjustments, testing, warranty, and incidental hardware to complete the work.

High Mast Ring Assembly will be measured in units of each and will be paid for at the contract unit price for the number of luminaires to be installed at that location. This price shall include the luminaire ring, lowering device with head frame and assembly, winch assembly, electric drills, electric raise/lower unit, lowering cables, junction box with prewired terminal block, adjustments, testing and incidental hardware to complete the work.

Sign lighting luminaire will be measured in units of each and will be paid for at the Contract unit price for the wattage and type specified. This price shall include the luminaire housing, mounting hardware, optical assembly, drivers, terminal block, surge protection device, labeling, conduit, conductor cables to the termini at the safety switch or junction box at the base of the structure, 7-pin receptacle with shorting cap, photoelectric control, service entrance head, grounding lug, safety switch, contactor, adjustments, testing, warranty, and incidental hardware to complete the work.

Electrical service, if required, shall be measured in accordance with Section 700 of the Specifications.

Luminaire retrieval systems will be measured in units of each and will be paid for at the Contract unit price per each. This price shall include the luminaire retrieval system, adjustment, and testing.

Payment will be made under:

Pay Item	Pay Unit
Conventional luminaire (wattage and type)	Each
Wall mounted luminaire (wattage and type)	Each
High mast luminaire (wattage and type)	Each
High mast ring assembly (number of luminaires)	Each
Sign lighting luminaire (wattage and type)	Each
Luminaire retrieval system (structure)	Each

SP801-000100-01

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
LANE CLOSURE COORDINATION (LCC)/LANE CLOSURE IMPLEMENTATION (LCI)
September 20, 2017

I. **General Requirements**

This work shall consist of coordinating and communicating lane closure operations through the local Transportation Operations Centers (TOC's). The Contractor shall coordinate lane closures in accordance with this Special Provision, and only implement lane closures with approval from the Department.

II. **Training**

The Contractor shall have individuals trained to input work-zone information into the Department's LCC/LCI system, currently LCAMS and VaTraffic, on a weekly basis and to update as needed. These individuals shall be able to speak, understand, read, and write English, and be able to operate a computer. No advanced computer skills are needed to use the LCAMS or VaTraffic systems. The Contractor shall have a computer with internet connectivity and email capability.

The Contractor shall contact the Regional TOC Work Zone Lane Closure (LCAMS/VaTraffic) Coordinator to initiate system access and schedule training, when necessary. The Department requires a 10 business-day notice to schedule classroom training for LCAMS. The Contractor's designated individuals shall complete the courses Introduction to VaTraffic, VaTraffic Reports, VaTraffic Planned Events, and VaTraffic Work Zones. LCAMS and VaTraffic training for the individuals shall be completed prior to the Notice to Proceed date.

III. **Lane Closure Process**

1. **Lane Closure Coordination Process.** All lane closures shall be entered as precisely as possible into the Lane Closure Advisory Management System (LCAMS) and VaTraffic no later than 8 AM on Thursday of the week prior to the planned lane closure, and updated as needed. For the purposes of this Special Provision, a week starts on Sunday. If this submission deadline changes (e.g., for weeks involving a holiday), the Engineer will notify the Contractor at least one week in advance. Final approval for the lane closure will be issued by the Engineer. All fields in LCAMS and VaTraffic must be properly filled out.

   A. **Point of Contact.** The data fields labeled "Requesting Org POC" in LCAMS and "Point of Contact" in VaTraffic shall contain the name and email address of the person physically entering the request into LCAMS.

   B. **Conflict Resolution.** LCAMS will identify and flag most conflicts, and will automatically assign priority as first-come, first-serve. The Contractor has the right to contact the higher-priority party and attempt resolution with them, provided the Contractor submits the final resolution to the Engineer no later than 5 PM on Thursday of the week prior to the planned lane closure. The Engineer will handle all unresolved conflicts between requests and other events according to the priorities listed below, with the highest priority item first. If some or all requests involved in the conflict are the same priority level, conflict resolution will be on a first-come, first-serve basis.

      (1) **Emergency Work.** Work that if not done "*will result"* in damage to a motorist vehicle or infrastructure, or danger to public health and safety.

      (2) **Lower Priority Items Previously Delayed.** Work that while considered a lower priority, if perpetually delayed could result in severe consequences.

      (3) **Urgent Work.** Work that if not done "*may result*" in damage to the motorist vehicle or infrastructure, or danger to public health and safety.

(4) **Contractual Obligated Work.** Work that is expected to be accomplished "*on-time, on-budget*".

(5) **Weather Dependent Work.** Work that is dependent on the temperature and clear or dry conditions.

(6) **Routine Maintenance Work.** Work that is routine in nature that can be rescheduled and moved around, within limits, without undue risk.

C. The request shall be supported by the Schedule of Record, and the Engineer may deny requests which are not. The Contractor will be allowed to request lane closures to accommodate potential weather delays.

D. The Contractor may revise his entries in LCAMS and VaTraffic after the Thursday deadline subject to the approval of the Engineer and the conflict resolution requirements herein.

2. **Lane Closure Implementation Process.** The Contractor shall notify the Regional TOC no later than 15 minutes, but no earlier than 45 minutes, prior to installing the lane closure, or no later than 15 minutes prior to scheduled start time if lane closure is delayed or canceled. The Contractor shall notify the TOC and update VaTraffic of any changes in lane-closure impact during the execution of work. The Contractor shall notify the Regional TOC no later than 15 minutes after the lane is reopened to traffic.

3. **Emergency Lane Closure.** If an Emergency Lane Closure is required, the Contractor shall coordinate directly with the TOC regarding the lane closure as soon as the location and size of the lane closure is known. An Emergency Lane Closure is defined as road work which could not have been anticipated and is required to protect the public from immediate, severe harm, and has a priority as defined by Section III-1B(1).

IV. **Measurement and Payment**

Lane closure coordination will not be measured or paid for separately, but the cost thereof shall be included in the price of other items.

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 105.06—SUBCONTRACTING
(FEDERAL FUNDED PROJECTS)

February 9, 2017

SECTION 105.06—Subcontracting of the Specifications is amended to include the following:

(d) According to Commonwealth of Virginia Executive Order 20, the Contractor is encouraged to seek out and consider Small, Women-owned, and Minority-owned (SWaM) businesses certified by the Department of Small Business and Supplier Diversity (DSBSD) as potential subcontractors and vendors. Further, the Contractor shall furnish and require each subcontractor (first-tier) to furnish information relative to subcontractor and vendor involvement on the project.

For purposes of this provision, the term "vendor" is defined as any consultant, manufacturer, supplier or hauler performing work or furnishing material, supplies or services for the contract. The Contractor and, or subcontractor (first-tier) must insert this provision 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 this provision are incorporated by reference for work done by vendors under any purchase order, rental agreement or agreement for other services for the contract. The Contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or vendor.

The submission of a bid will be considered conclusive evidence that the Contractor agrees to assume these contractual obligations and to bind subcontractors contractually to the same at the Contractor's expense.

When an approved Form C-31 "Subletting Request" is required according to IIM-CD-2013-06.01, the Contractor shall indicate on the Subletting Request if a subcontractor is a certified DBE or SWaM business.

The Contractor shall report all DBE, SWaM, and Non SWaM vendor payments quarterly to the District Civil Rights Office. The Contractor shall provide the information in a format consistent with Form C-63, Vendor Payment Compliance Report, subject to the approval of the Engineer.

DBE Participation and reporting shall be in accordance with the Special Provision for Section 107.15 (Use of Disadvantaged Business Enterprises).

If the Contractor fails to provide the required information, the Department may delay final payment according to Specification Section 109.10 of the Specifications.

SS202-002016-01 **November 14, 2018**

VIRGINIA DEPARTMENT OF TRANSPORTATION
2016 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS
SECTION 202—FINE AGGREGATE

SECTION 202—FINE AGGREGATE of the Specifications is revised as follows:

Section 202.03(e) **Deleterious Material** is replaced with the following:

Deleterious Material: The amount of deleterious material in sands shall be not more than the following:

Material	% by Weight	AASHTO Test Method
Clay lumps	0.25	T112
Shale, mica, coated grains, soft or flaky particles	1.0	T113
Organic material	0	T21
Total material passing No. 200 sieve by washing[1,2]		T11 and T27
For use in concrete subject to abrasion	3	
For other concrete	5	

[1]In the case of stone sand, if the material passing the No. 200 sieve is dust of fracture, essentially free from clay and shale, the percentages shown for use in concrete subject to abrasion and in other concrete may be increased to 5.0 percent and 7.0 percent, respectively.
[2]In the case of blends of stone sand and natural sand, provided the natural sand contains no greater than 3% passing the No. 200 sieve for use in concrete subject to abrasion and no greater than 5% for other concrete, then the stone sand limits of 5% and 7% shall apply to the blend.

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 105.09 - COOPERATION WITH REGARD TO UTILITIES
Utility Facility Adjustments:
Dominion Energy, Electric;
Verizon Virginia, LLC, Telephone;
Metro Fiber Network, Telephone;
James City County Fiber, Communications;
Cox Communications, Cable;
and Virginia Natural Gas, Gas

March 27, 2019
(NFO)0612-047-631, C501

Section 105.08 Cooperation with Regard to Utilities of the Specifications is amended to include the following:

During the life of this project, the utility facilities owned and operated by Dominion Energy, Verizon Virginia, LLC, Metro Fiber Network, James City County Fiber, Cox Communications, and Virginia Natural Gas will be adjusted as necessary, either prior to project construction or in conjunction with project construction when necessary.

The Contractor shall not consider the description of the facilities contained herein or the description of the adjustments being made to these facilities as being inclusive of all facilities belonging to Dominion Energy, Verizon Virginia, LLC, Metro Fiber Network, James City County Fiber, Cox Communications, and Virginia Natural Gas on this project or all adjustments being made to these facilities.

The Bidder should consult Dominion Energy, Verizon Virginia, LLC, Metro Fiber Network, James City County Fiber, Cox Communications, and Virginia Natural Gas before submitting bids to determine the location of their existing facilities and to determine the extent of their adjustments which will be performed or be caused to be performed by the companies in conjunction with project construction.

The Contractor shall take all precautions necessary to prevent damaging the facilities belonging to Dominion Energy, Verizon Virginia, LLC, Metro Fiber Network, James City County Fiber, Cox Communications, and Virginia Natural Gas. If the Contractor's operations damage said facilities, the Contractor shall immediately notify the owner of the damaged utility. Any cost that may be incurred by the Contractor or the utility owner to repair the damaged facility shall be the responsibility of the Contractor in accordance with Section 107.17 of the Specifications.

The Contractor shall notify Dominion Energy, Verizon Virginia, LLC, Metro Fiber Network, James City County Fiber, Cox Communications, and Virginia Natural Gas through "Miss Utility" at 811 (1-800-552-3120) a minimum of 48 hours before beginning any excavation or construction on this project so that they can locate and mark their existing facilities.

Dominion Energy, Verizon Virginia, LLC, Metro Fiber Network, James City County Fiber, Cox Communications, and Virginia Natural Gas will adjust their overhead and underground facilities in conjunction with the Contractor's operations. The existing overhead and underground facilities with appurtenances are located throughout the project. The utility adjustments facilities will be phased into two utility phases and two construction areas.

Utility Phase I (Construction Area 1) utility adjustments from Station 234+00 ± to Station 254+00 ± on both sides of Longhill Road and from Station 101+00 ± to Station 102+50 ± on both sides of Williamsburg Plantation Drive.

Utility Phase II (Construction Area 2) utility adjustments from Station 216+00 ± to Station 234+00 ± on both sides of Longhill Road; from Station 21+75 ± to Station 27+00 ± on both sides of Olde Town Road; and from Station 30+50 ± to Station 35+00 ± on both sides of Devon Road.

The Contractor shall limit its construction of the proposed improvements as outlined below.

Most of the work on joint use facilities must be performed sequentially and independently.

The Contractors shall coordinate with the utility owner(s) for any existing facilities (manhole frame & covers, hand holes, Pedestals, Power Supplies, etc.) that will need to be adjusted to final grade. The Contractor shall contact the owner of the facility a minimum of fifteen (15) working days before needing these facilities adjusted.

The following is a brief description of the utility facilities belonging to the named companies and the adjustments being made to these facilities.

Company contact information:

Dominion Energy

The contact person for Dominion Energy on this project is Mr. Joseph Pincus, 1600 Hamilton Avenue, Portsmouth, VA. 23707. Telephone (757) 262-6107.

Verizon Virginia, LLC

The contact person for Verizon Virginia, LLC on this project is Mr. Jim Fulton, 2920 Elmhurst Lane, Portsmouth, VA 23701. Telephone (757) 465-0379.

Metro Fiber Network

The contact person for Metro Fiber Network on this project is Mr. Euggene Midkiff, 435 Redoubt Road, Yorktown, VA. 23692. Telephone (757) 890-0443.

James City County Fiber

The contact person for James City County Fiber on this project is Mr. Patrick Page, 101F Mounts Bay Road, Williamsburg, VA. 23185. Telephone (757) 253-6666.

Cox Communications

The contact person for Cox Communications on this project is Mr. Charlie Hardy, 179 Louise drive, Newport News, VA. 23601. Telephone (757) 269-6403.

Virginia Natural Gas

The contact person for Virginia Natural Gas on this project is Mr. Bryan Greskowiak, 544 S. Independence Blvd, Virginia Beach, VA. 23452. Telephone (757) 635-2822.

Phase I (Construction Area 1)

The Contractor shall not commence any construction of the proposed improvements within Utility Phase I (Construction Area 1) of the project without the written approval of the Engineer and the Southeast Regional Utility Manager.

The adjustment of the Dominion Energy, Verizon Virginia, LLC, Metro Fiber Network, James City County Fiber, Cox Communications, and Virginia Natural Gas facilities are scheduled to be completed on or before **September 2, 2019** within Utility Phase I (Construction Area 1) but may be extended until these adjustments have been completed.

Dominion Energy

Dominion Energy owns and operates overhead and underground facilities and appurtenances within the areas scheduled for work during this phase. The existing facilities are shown on the plan sheets.

Dominion Virginia Power will relocate and adjust their existing facilities within this phase.

Verizon Virginia, LLC

Verizon Virginia, LLC owns and operates overhead and underground facilities and appurtenances within the areas scheduled for work during this phase. The existing facilities are shown on plan the sheets.

Verizon Virginia, LLC will relocate and adjust their existing facilities within this phase.

Metro Fiber Network

Metro Fiber Network owns and operates overhead and underground facilities and appurtenances within the areas scheduled for work during this phase. The existing facilities are shown on the plan sheets.

Metro Fiber Network will relocate their existing facilities both aerial and underground outside of this phase and project limits.

James City County Fiber

James City County Fiber owns and operates overhead and underground facilities and appurtenances within the areas scheduled for work during this phase. The existing facilities are shown on the plan sheets.

James City County Fiber will relocate and adjust their existing facilities within this phase.

Cox Communications

Cox Communications owns and operates overhead and underground facilities and appurtenances within the areas scheduled for work during this phase. The existing facilities are shown on the plan sheets.

Cox Communications will relocate and adjust their existing facilities within this phase.

Virginia Natural Gas

Virginia Natural Gas owns and operates underground facilities and appurtenances within the areas scheduled for work during this phase. These facilities are shown on the plan sheets.

Virginia Natural Gas will relocate and adjust their existing facilities within this phase.

Phase II (Construction Area 2)

The Contractor shall not commence any construction of the proposed improvements within Utility Phase II (Construction Area 2) of the project without the written approval of the Engineer and the Southeast Regional Utility Manager.

The adjustment of the Dominion Energy, Verizon Virginia, LLC, Metro Fiber Network, James City County Fiber, Cox Communications, and Virginia Natural Gas facilities are scheduled to be completed on or before **July 6, 2020** within Utility Phase II (Construction Area 2) but may be extended until these adjustments have been completed.

Dominion Energy

Dominion Energy owns and operates overhead and underground facilities and appurtenances within the areas scheduled for work during this phase. The existing facilities are shown on the plan sheets.

Dominion Virginia Power will relocate and adjust their existing facilities within this phase.

Verizon Virginia, LLC

Verizon Virginia, LLC owns and operates overhead and underground facilities and appurtenances within the areas scheduled for work during this phase. The existing facilities are shown on plan the sheets.

Verizon Virginia, LLC will relocate and adjust their existing facilities within this phase.

Metro Fiber Network

Metro Fiber Network owns and operates overhead and underground facilities and appurtenances within the areas scheduled for work during this phase. The existing facilities are shown on the plan sheets.

Metro Fiber Network will relocate their existing facilities both aerial and underground outside of this phase and project limits.

James City County Fiber

James City County Fiber owns and operates overhead and underground facilities and appurtenances within the areas scheduled for work during this phase. The existing facilities are shown on the plan sheets.

James City County Fiber will relocate and adjust their existing facilities within this phase.

Cox Communications

Cox Communications owns and operates overhead and underground facilities and appurtenances within the areas scheduled for work during this phase. The existing facilities are shown on the plan sheets.

Cox Communications will relocate and adjust their existing facilities within this phase.

Virginia Natural Gas

Virginia Natural Gas owns and operates underground facilities and appurtenances within the areas scheduled for work during this phase. These facilities are shown on the plan sheets.

Virginia Natural Gas will relocate and adjust their existing facilities within this phase.

The Contractor shall not disturb the new or relocated facilities once they are in place.

The Contractor shall allow Dominion Energy, Verizon Virginia, LLC, Metro Fiber Network, James City County Fiber, Cox Communications, and Virginia Natural Gas time to remove and relocate their existing facilities and to complete their adjustment their existing facilities in designated Utility Phase.

The Department is not responsible for any construction delays resulting from known utility adjustments and no modifications to the contract time limits will be considered for delays resulting from known utility adjustments.

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 217 - HYDRAULIC CEMENT CONCRETE
(INTEGRALLY COLORED AND TEXTURED CONCRETE)

January 30, 2019
0612-047-631, C-501

Section 217 - Hydraulic Cement Concrete is amended as follows:

Section 217.02 - Materials amended to include the following:

(m) References:

1. ASTM C309 "Liquid Membrane-Forming Compounds for Curing Concrete."
ASTM C494 "Standard Specification for Chemical Admixtures for Concrete."
ASTM C979 "Standard Specification for Pigments for Integrally Colored Concrete."
AASHTO M194 "Chemical Admixtures."

(n) Admixtures:

1. Do not add calcium chloride to mix.
2. Supplemental admixtures shall not be used unless approved by manufacturer.
3. Do not add water to the mix in the field.
4. Add colored admixture to concrete mix in accordance with the manufacturer's written instructions.
5. Colored Admixture for Integrally Colored Concrete shall be submitted to the Engineer for approval.
6. Admixture shall be colored and water-reducing, with limeproof and ultra-violet resistant coloring agents.
7. Colored admixture shall conform to the requirements of ACI 303.1, ASTM C979, ASTM C494 and ASSHTO M194. Raw pigments are not an equivalent and may not be substituted.

(o) White Portland Cement Concrete:

1. Coarse Aggregate: Mix shall contain a well graded aggregate mix with the largest aggregate size of 1/2” for stamping/texturing concrete without deformities caused by larger aggregates.
2. Slump of concrete shall be consistent throughout Project at 4-inches or less. At no time shall slump exceed 5-inches. [If super plasticizers or mid-range water reducers are allowed, slump shall not exceed 8-inches.]

(p) Curing and Sealing Concrete:

1. Curing Compound for Integrally Colored Concrete: Curing compound shall comply with ASTM C309 and be of same manufacturer and color as colored admixture, for use with integrally colored concrete.
2. Curing and Sealing Compound shall be a solvent based matte finish that is approved by the manufacturer for use with the colored admixture. Curing and sealing compound shall comply with ASTM C309 and shall be of same manufacturer as colored admixture, for use with integrally colored concrete.
3. Apply curing and sealing compound for integrally colored concrete according to manufacturer's instructions using manufacturer’s recommended application techniques. Apply curing and sealing compound at consistent time for each pour to maintain close color consistency. Curing of concrete shall not be “quick curing” but shall be slow to ensure setting of concrete without cracking.

4. A Non-Skid additive approved by the manufacturer shall be applied to the sealer to provide a non-slippery surface when cured. Apply as per manufacturer's instructions.
5. Precautions shall be taken in hot weather to prevent plastic cracking resulting from excessively rapid drying at surface as described in CIP 5 *Plastic Shrinkage Cracking* published by the National Ready Mixed Concrete Association.
6. Do not cover concrete with plastic sheeting.

(q) Liquid Release Agent: The Release Agent shall be of same manufacturer as colored admixture, for use with integrally colored concrete. The Release agent is a high-performance, odorless, liquid bond breaker for use when imprinting concrete flatwork or cementitious toppings with mat-type texturing tools or embossing skins to provide easy release of the tool. The release agent forms a bond-breaking barrier that helps prevent the tools from sticking to the fresh concrete or cementitious topping and marring the imprinted pattern in its fragile surface.

(r) Concrete Color[s]:

2. Cement: Color of cement before admixtures shall be French Grey.
Sand: Color shall be locally available natural sand.
Colored Admixture: For Small River Rock, color shall be 30% Autumn Brown and 30% Rustic Brown, applied randomly to facsimile actual River Stone. For Brick Herringbone, color shall be Adobe Red. Colors to be approved by the Engineer from the Manufacturer's ad-mixtures Color Chart.
Curing Compound: Color to match colored concrete.

(s) Stamping Tolls: Tools for creating patterns in concrete shall be professional grade imprinting tools as approved for use by the manufacturer of colored concrete admixtures.

(t) Substitutions:

The use of products other than those specified will be considered if the Contractor requests its use in writing within 30-days following contract award. This request shall be accompanied by the following:

- A certificate of compliance from material manufacturer stating that proposed products meet or exceed requirements of this Section, including standards ACI 303.1, ASTM C979, ASTM C494 and AASHTO M194.
- Documented proof that proposed materials have a 10-year proven record of performance, confirmed by at least 5 local projects that the Engineer can examine.

Section 217.03 - Handling and Storing Materials amended to include the following:

(f) Colored Admixture: Comply with manufacturer's instructions. Deliver colored admixtures in original, unopened packaging. Store in dry conditions.

Section 217 - Hydraulic Cement Concrete is amended to include the following:

Section 217.15 - Submittals

(b) Product Data: Submit manufacturer's complete technical data sheets for the following:

1. Colored admixture.
Curing and Sealing Compound.
Liquid Release Agent

(b) Design Mixes: For each type of integrally colored concrete.

(c) Samples for Initial Selection: Manufacturer's color charts showing full range of colors available.

(d) Qualification Data: For firms indicated in "Quality Assurance" Article, including list of completed projects.

(e) Submit business name, contact person, physical address, web site (if applicable), and telephone number of local product supplier and installer to the Engineer for VDOT future reference.

Section 217.16 - Quality Assurance

(a) Manufacturer Qualifications: Manufacturer with 10-years experience in the production of specified products.

(b) Installer/applicator Qualifications: An installer/applicator with five (5) years experience with work of similar scope and quality and as approved by the selected product manufacturer.

(c) Comply with the requirements of ACI 301.

(d) Obtain each specified material from same source and maintain high degree of consistency in workmanship throughout Project.

(e) The manufacturer's authorized representative shall be on site for the pre-job conference, during the mockup construction, and at the start of the project work. Notification of manufacturer's authorized representative shall be given at least 1-week before start of Work.

Section 217.17 - Project Conditions

Integrally Colored Concrete Environmental Requirements:

1. Schedule placement to minimize exposure to wind and hot sun before curing materials are applied.
2. Avoid placing concrete if rain, snow, or frost is forecast within 24-hours. Protect fresh concrete from moisture and freezing.
3. Comply with professional practices described in ACI 305R and ACI 306R.
4. Schedule delivery of concrete to provide consistent mix times from batching until discharge. Mix times shall meet manufacturer's written recommendations.

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 502 – INCIDENTAL CONCRETE ITEMS
(INTEGRALLY COLORED AND TEXTURED CONCRETE)

July 9, 2018
0612-047-631, C-501

Section 502 – Incidental Concrete Items is amended as follows:

Section 502.01 – Description is amended to include the following:

This work shall include forming, furnishing, installing, stamping, integrally coloring, sealing, curing, and warranting decorative textured concrete in the areas specified on the Plans in accordance with these specifications and as directed by the Engineer.

Section 502.02 - Materials is amended to include the following:

Materials shall conform to Section 217 of the Specifications.

Section –502.03 – Procedures is amended to include the following:

(a) Pre-job Conference

1. A meeting shall be held to discuss the project and application materials one week prior to placement of integrally colored concrete.

2. The meeting should include the Engineer, Landscape Architect, Construction Inspector, Prime Contractor, Sub Contractor, Ready-mix Concrete Representative, and a Manufacturer's Representative as practicable.

3. Color and pattern samples of Small River Rock and Brick Herringbone shall be provided for the Department to review at the Pre-job Conference.

(b) Integrally Colored Concrete Mockups:

2. At off-site location selected by the Engineer, place and finish a minimum 10 feet by 10 feet area. Both samples shall have a curvilinear edge.

For accurate color, the quantity of concrete mixed to produce the sample should not be less than 3 cubic yards (or not less than 1/3 the capacity of the mixing drum on the ready-mix truck) and should always be in full cubic yard increments. Excess material shall be discarded according to local regulations.

Construct mockup using processes and techniques intended for use on permanent work, including curing procedures. Include samples of control, construction, and expansion joints in sample panels. Mockup shall be produced by the individual workers who will perform the work for the Project.

Retain samples of cements, sands, aggregates and color additives used in mockup for comparison with materials used in remaining work.

Accepted mockup field sample provides visual standard for work of Section.

Mockup shall remain through completion of work for use as a quality standard for finished work.

Remove mockup when directed.

(c) Do not add water to concrete mix in the field.

(d) Prior to construction, the Contractor shall submit a plan for installing material including location of construction joints and control joints that will align with size and pattern of imprinting tools to be used and the manner in which the work will be prosecuted.

(e) Surfaces shall be finished uniformly with the following finish:

1. Uniformly trowel the surface to ensure that it will not be slippery.
2. Apply Small River Rock and Brick Herringbone Patterns as specified in the plans with professional grade imprinting tools when the concrete is still plastic enough to receive and hold an imprint according to the manufacturer's recommendations. A liquid release agent must be used in adequate amounts to prevent the imprinting tool from adhering to concrete.
3. Use floppy and filler tools to finish rows and fill in sections of the design where it is not convenient or possible to use rigid or border tools.
4. Periodically inspect finish for damaged areas or areas where the imprinting depth requires correcting. Border tools or Imprinting Tools may be carefully replaced and the impression deepened by tamping, or floppy and filler tools may be used. Areas where the texture is torn or damaged should be repaired by use of texturing tools. Hand chisels should be used, where needed, to deepen or create joint lines.
5. To prevent marring the texture of the pattern, tools should be periodically inspected and hardened concrete residue removed regularly.

(f) Apply Curing and Sealing agents in accordance with the manufacturer's recommendations.

(g) Control Joints shall be Saw Cut at approximate 20' intervals between perpendicular bands as indicated on the plans and details.

(h) Wherever the Special concrete meets any other surface, a 4", tooled, smooth troweled edge will be implemented.

(i) Tolerances:

1. As with any natural material, some variation in appearance is a normal design feature of concrete, whether integrally colored or not. It is normal for the color of integrally colored concrete to lighten as it cures; allow up to 28 days for process to occur.

2. Minor variations in appearance of integrally colored concrete, which are similar to natural variations in color and appearance of uncolored concrete, are acceptable.

(j) Warranty:

The Contractor shall warrant workmanship and installation to be free of settling, cracking, discoloring, and spalling, for a period of one year from the date of acceptance of the installation. This warrant shall not apply in cases of damage caused by vehicles crossing, driving on, or overturning onto median and causing damage to the surface or finish.

~~**Section 502.04 - Measurement and Payment** is amended to include the following:~~

~~Integrally Textured and Colored Concrete will be measured in square yards of textured surface area and will be paid for at the Contract square yard price. This price shall include furnishing and installing concrete, coloring, sealing, and curing The price shall also include constructing and removing mockups and warranty.~~

~~Hydraulic Cement Concrete STD. PR-2 and Median Strip MS-1A will be measured and paid for in accordance with Sections 316 and 502 of the Specifications as applicable.~~

~~Payment will be made under:~~

~~**Pay Item**~~	~~**Pay Unit**~~
~~Integrally Colored and Textured Concrete~~	~~Square Yard~~

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
ADVANCED TRANSPORTATION CONTROLLER (ATC) CABINET - 5-DOOR CONFIGURATION

January 30, 2018

I. DESCRIPTION

This work shall consist of furnishing and installing Advanced Transportation Controller (ATC) Cabinets— 5-Door Configuration for the Virginia Department of Transportation as shown on the Plans, in accordance with these specifications, and as directed by the Engineer.

II. EQUIPMENT

1. Composition

The ATC Cabinets— 5-Door Configuration shall be furnished with the following composition.

ATC Cabinet— 5-Door Configuration shall consist of an ITS Housing 3 type cabinet and two Mounting Cages identified as Segment A and Segment B and shall be mounted on an oversized base adapter. Facing the front, the right rack cage, Segment A, shall be the ATC cabinet side with modular and interchangeable ATC assemblies interconnected through an advanced serial data bus. The left rack cage, Segment B, shall include the Auxiliary Communications Panel, shelving for the backup power system, and a power distribution unit for communications devices.

Segment A shall consist of:
- Service Assembly (SA)
- Power Assembly (PA)
- Input Assembly (IA)
- Input Test Panel Assembly
- Field Input Termination Assembly (FITA)
- Output Assembly (OA)
- Field Output Termination Assembly (FOTA)

The Power Assembly shall consist of:
- Direct Current (DC) Power Supply
- Alternating Current (AC) Clean Power Bus
- Combination Serial Bus 1 (SB1)/Serial Bus 2 (SB2) and DC Power Bus
- Auxiliary Input / Output Assembly
- Advanced Detection Assembly

Segment B shall consist of:
- Auxiliary Communication Panel
- Power Distribution Unit
- (2) Shelf – Type I
- (2) Shelf – Type II

2. **General Requirements**

All assemblies, switches, terminal blocks, and connectors in the ATC Cabinet shall be clearly and permanently labeled. All fuses, circuit breakers, switches (except police panel switches), and indicators shall be readily visible and accessible when the ATC Cabinet front door is open. All circuit breakers located on the rack shall have covers to prevent accidental tripping.

The marker strips shall be made of material that can be easily and legibly written on using a pencil or ballpoint pen. Marker strips shall be located immediately below the item they are to identify and shall be clearly visible with the items installed.

Guides (top and bottom) shall be provided for assembly plug-in units. The guides shall begin 1/2 inch from the assembly front panel face.

High-voltage components (over 50 V) shall not be exposed in accordance with the National Electric Code (NEC).

Segment A of the ATC cabinet, the input assembly, output assembly, and controller, shall be replaceable in the flash mode condition, without putting the intersection in a dark condition.

All assemblies shall be modular with pluggable cabling. All cabling shall be of sufficient length to allow for mounting the assemblies in any position within the rack. Assemblies shall not be hardwired. Wire raceways shall be integrated as part of Segment A of the ATC cabinet allowing for neat internal and field wiring. The installation of standard rack mounted equipment shall not be blocked, hindered, or inhibited by wires and cables for the full height and width of the rack chassis.

A momentary push button switch labeled “24 VDC BYPASS” shall be located on the front of the output assembly that, when pressed, energizes 24 VDC to the high density switch packs during flash mode for troubleshooting purposes.

A. **Environmental and Electrical**

Ensure all components properly operate within the following limits:

- Applied Line Voltage: 90 to 135 VAC
- Frequency: 60 (±3.0) hertz
- Humidity: 5% to 95%
- Ambient Temperature: -37 ºC to +74 ºC
- Shock - Test per Specification MIL-STD-810G Method 516.6
- Vibration - per Specification MIL-STD-810G Method 514.

B. **Assemblies and Files** shall be mounted on the cage mounting rails in accordance with the cabinet model detail. In Segment A, a clear area for the ATC controller unit shall be provided. The area shall extend 1-1/2 in. in front of and 16 in. behind the front Electronic Industries Association (EIA) mounting angles.

C. **Cabinet Shipping**

The cabinet shall be delivered mounted with bolts on a ply board shipping pallet. The cabinet shall be enclosed in a slipcover cardboard packing shell. The housing doors shall be blocked to prevent movement during transportation.

D. **Stainless Steel**

All bolts, nuts, washers, screws (size 8 or larger), hinges, and hinge pins shall be stainless steel unless otherwise specified.

E. **Protection**

All conductors, terminals and parts which could be hazardous to maintenance personnel shall be protected with suitable insulating material.

3. **ATC Cabinet Housing** shall conform to the ITS Cabinet Standard v01.02.17b dated November 16, 2006, Section 6.2 Housings, except as specified below.

A. **General**

The ATC Cabinet Housing shall be based on the ITS Housing #3 enclosure and shall include, but not limited to, the following:

- Enclosure & Doors
- Gasketing
- Lifting Eyes & External Bolt Heads
- Door Latches & Locks
- Housing Ventilation
- Cage Supports and Mounting
- Door Hinges & Catches
- Police Panel
- Aluminum Surfaces

B. **Housing Dimensions**

The cabinet shall be 66-3/8 inches high by 44-1/2 inches wide by 26 inches deep (± 1/2 inch). The front-to-back cabinet dimensions shall not exceed 32 inches at its widest point, including the door handles, louvers, and roof overhang.

C. **Aluminum Surface Protection – Exterior Surfaces**

An aluminum surface protection shall be applied to the exterior surface of the cabinet housing. The surface protection shall be an ANTI-GRAFFITI Paint conforming to ITS Cabinet Standard v01.02.17b dated November 16, 2006, Section 6.2.2.3.1.

D. **Powder Coating – Interior Surfaces**

The interior of the cabinet housing and doors shall be powder coated white. Powder coat finish shall consist of a Urethane or Triglycidly Isocyanurate (TGIC) Polyester Powder. The interior aluminum surface shall be cleaned and prepared per the powder coating manufacturer's recommendations. The powder coating shall be electrostatically applied and then cured per the manufacturer's recommendations. The thermosetting powder resin shall provide both intercoat as well as substrate fusion adhesion that meets 5A or 5B classifications as per ASTM D3359.

E. **Lifting Eyes and Exterior Bolt Heads**

The housing shall be provided with two lifting eyes for placing the cabinet on its foundation. Lifting eyes shall be mounted on the sides of the cabinet, centered, and extend above the top of the cabinet to provide unobstructed access to the eyes. Each eye opening shall have a minimum diameter of 3/4-inch. Each eye shall be able to support the weight load of 1,000 lbs. All bolt heads shall be tamperproof type.

F. **Door Latches and Locks**

(1) **General**

Five vertically hinged doors shall be mounted on the cabinet for interior access. Three doors, two vertically aligned on the left and one on the right, shall be located on the front face. Two doors shall be located on the rear face of the cabinet.

(2) **Enclosure Door Frames and Door Seals**

The right door on the front face and both doors on the rear face of the cabinet shall be 58-3/8 inches high by 22-1/8 inches wide (± 1/2 inch). Each of these door openings shall not be less than 56-3/8 inches high by 20-1/8 inches wide (± 1/2 inch).

The upper left face door, the fourth door, shall be 34 inches high by 22-1/8 inches wide (± 1/2 inch) with a door opening not less than 30 inches high by 20-1/8 inches wide (± 1/2 inch).

The lower left face door, the fifth door, shall be 24 inches high by 22-1/8 inches (± 1/2 inch) wide with a door opening not less than 20 inches high by 20-1/8 inches wide (± 1/2 inch).

(3) **Latching Handles** shall have provision for padlocking in the closed position. Each handle shall be 3/4 inch minimum diameter stainless steel with a minimum of 1/2 inch shank. The padlocking attachment shall be placed at 4 inches from the handle shank center. An additional 4-inch minimum gripping length shall be provided.

Door handles shall be vertical in the close position. All door handles shall rotate in a direction towards the door hinges.

(4) **Latch and Lock Mechanism**

The latching mechanism shall be a three-point draw roller type. The pushrods shall be turned edgewise at the outward supports and have a cross section of 1/4 inch thick by 3/4 inch wide minimum. When the door is closed and latched, the door shall be locked. The lock and lock support shall be rigidly mounted on the door. The lock shall be mounted in the upper quadrant, above the handle when in its full open position. In the locked position, the bolt throw shall extend a minimum of 0.25 inch (+/-0.03125 inches) into the latch cam area. A seal shall be provided to prevent dust or water entry through the lock opening.

(5) **Lock and Keys**

The cabinet door locks shall be mounted to the cabinet with four bolts and the tumbler shall be keyed to a 2 type. One key shall be supplied with each lock. The keys shall be removable in the locked position only. A swing away cover shall be placed over the key entrance to protect the lock mechanism.

The fifth door shall be equipped with a lock. The lock shall be PELCO SM-1021/LOCKSM-1021 or equivalent. The lock shall be keyed for a master communication key (PELCO SM-0213/KEYSM-0213) or equivalent, compatible with VDOT district interface box door locks. Two keys shall be furnished with each door lock. Each communication key shall have a minimum shaft length of 1.75 inches.

G. **Housing Ventilation** shall include intake, exhaust, filtration, and thermostat controlled fans.

(1) **Door Ventilation**

The front facing right door and the rear facing right door shall be provided with louvered vents. The louvered vent depth shall be a maximum of 1/4 inch. A removable and reusable air filter shall be housed behind the door vents. The filter filtration area shall cover the vent opening area. A filter shell shall be provided that fits over the filter providing mechanical support for the filter. This shell shall be louvered to direct the incoming air downward. The shell sides and top shall be bent over a minimum of 1/4 inch to house the filter. The filter resident in its shell shall be held firmly in place with a bottom trough and spring loaded upper clamp. No incoming air shall bypass the filter. The bottom filter bracket shall be formed into a waterproof sump with drain holes to the outside housing.

(2) **Intake and Filter**

The intake (including filter with shell) and exhaust areas shall pass a minimum of 120 cu. ft. of air per minute.

(3) **Fans**

Four fans shall be mounted within the housing and protected with a finger guard. Each electric fan shall be equipped with ball or roller bearings and shall have a minimum capacity of 100 cu. ft. of free air delivery per minute. The fan shall be fastened to the cabinet with two thumb screws which shall not be fastened in a manner that requires any tools for removal or installation.

(4) **Temperature Controlling Panels** shall control one fan and include one thermostat, an on/off switch, fan test button, and fuses. Each fan shall be thermostatically controlled and shall be manually adjustable to turn on between 32°F and 140°F with a differential of not more than 20 degrees between automatic turn on and off. The fan circuit shall be protected at 125% of the fan motor ampacity. The manual adjustment shall be graded in 20°F increments scale. Temperature Controlling Panels shall be installed in the same section of the cabinet as the fans which they control.

H. **Hinges & Door Catches**

(1) **Hinges**

Stainless steel hinges (two bolts per leaf) shall be provided to bolt the enclosure to the doors. Provide two hinges for the fourth and fifth doors, and provide four hinges for all remaining doors. Each hinge shall be 3-1/2 inch minimum length and have a fixed pin. The pin ends shall be welded to the hinge and ground smooth. The pins and bolts shall be covered by the door edge and not accessible when the door is closed. A ground strap between the door and the main cabinet housing shall be required when 120 VAC components are mounted on the door.

(2) **Door Catches**

All five doors shall be provided with catches to hold the door open at both 90 and 165 (±10) degrees. The catch shall be 0.375 inch minimum diameter aluminum rods. The catches shall be capable of holding the door open at 90 degrees in a 60 mph wind acting at an angle perpendicular to the plane of the door.

I. **Police Panel**

(1) **Manual Advance Cable**

Each cabinet shall be provided with an interval advance cord, six feet long, with a weatherproof manual police push button.

(2) **Toggle Power Switches**

The police panel shall include three double-pole, double-throw (DPST) switches and labelled as follows: “SIGNAL OFF / ON”, "FLASH / AUTO", and “MANUAL CONTROL ENABLE OFF-ON”. A receptacle for the MANUAL ADVANCE cord shall be provided.

All switches shall be “ON” or “AUTO” when in the UP position.

The police panel switches shall be individually wired through factory molded connectors which allow the switches to be disconnected and not usable, as desired by the Department. These connectors shall be wired in such a way to provide full cabinet operation when any or all police panel switches are connected or disconnected.

J. **Cabinet Lights** shall include nine LED lighting fixtures of approximately 6 watt 25 amp that produce 350-380 lumen per unit with approximate dimensions of 0.5 inches by 12 inches by 0.5 inches or as approved by the Engineer. One light shall be mounted inside the top portion of each cabinet door. Two lights shall be mounted, inside the front center structural member, equally spaced. Two lights shall be mounted, inside the rear center structural member, equally spaced.

K. **Door Switches**

Door actuated switches shall be installed on each cabinet door to turn on the cabinet lights when any of the doors are opened. There shall also be manual switches installed to activate and deactivate the lights.

Additional switches of the same type, shall be installed to actuate when either the front or rear doors are opened. A switch with similar function shall be installed to actuate when the police panel door is opened. All door open switches shall be wired as inputs to the ATC controller through SB1 or SB2. These switches will be used to provide the “Door Open” alarm when any cabinet door is opened.

L. **Drawer Shelf Unit**

A 2U, telescopic slide out drawer shall be provided to store documents. The drawer shelf unit shall be mounted across the front EIA rails and extend the shelf mounting brackets to the rear EIA rails. The drawer shelf unit shall be provided with a non-conductive top, locking provision when fully extended, and lip or handle for pulling. The drawer storage area shall have no openings when fully closed to limit rodent intrusion, and minimum dimensions shall be 16 inches wide by 14 inches long by 3 inches deep.

M. **Backup Power Confirmation Lights**

The cabinet shall include one red external LED confirmation light indicating when the traffic control system is not operating on primary service power. The LED confirmation light shall be approximately one inch in diameter and located above the left rear door, approximately 6 inches from the left edge of the cabinet and halfway between the rear cabinet door and the top of the cabinet. The LED confirmation light shall have a durable weatherproofing gasket. The LED configuration light shall be neatly wired to a confirmation light relay panel mounted above the service assembly. This panel shall be permanently labelled and include terminal blocks for wiring. The light shall be configured such that when the external LED confirmation light is on, the traffic control system is operating on backup power. When the external LED confirmation light is off, the traffic control system shall be operating on primary service power.

N. **AC- Copper Terminal Bus** shall not be grounded to the cabinet or connected to logic ground. Nylon screws with a minimum diameter of 1/4 inch shall be used to secure the bus to the service panel. The AC- copper terminal bus shall be provided with a minimum number of wiring lugs for each output channel.

If the output assembly is for 16 channels, a minimum of 16 available wiring lugs shall be present. If the output assembly is for 32 channels, a minimum of 32 available wiring lugs shall be present.

4. **5-Door Cabinet Rack Cages** shall conform to the ITS Cabinet Standard v01.02.17b dated November 16, 2006.

5. **ATC Cabinet Assemblies**

A. **General**

The following equipment shall be completely removable from the cabinet without removing any other equipment and using only a slotted or Phillips screwdriver:

- Service Assembly (SA)
- Power Assembly (PA)
  - DC Power Supply
  - AC Clean Power Bus
  - SB1/SB2 and DC Power Bus
  - Advanced Detection Assembly
  - Auxiliary I/O Assembly
- Input Assembly (IA)
- Input Test Panel Assembly
- Field Input Termination Assembly (FITA)
- Output Assembly (OA)
- Field Output Termination Assembly (FOTA)

B. **Service and Power Assembly Overview**

Power for the ATC cabinet shall originate at the service assembly and extend to the power assembly unit of the cabinet. The power assembly may be a single unit or made up of separate standalone sub-assemblies.

The serial bus and DC power may be distributed to the assemblies via direct connection to the SB1/SB2 and DC power bus or interconnected in a daisy chain method originating at the power assembly.

C. **Service Assembly** shall be modular, use no more than three EIA rack units (e.g. 3U), and mount across two vertical cage angles when viewed from the front. The service assembly shall include, at a minimum the main breaker, a 15A circuit breaker protecting a ground fault circuit interrupter (GFCI) duplex outlet, a GFCI duplex outlet, service entrance conductor landing terminals, backup power conductor landing terminals, and a pluggable cabinet surge protection device.

If the power assembly is provided as multiple sub-assemblies, the service assembly shall also include the high-density flasher unit with serial bus 3 interface, four raw AC+ convenience outlets NEMA 15-5 format, a Raw AC+ terminal block having a minimum of five terminal screws, and four circuit breakers for the clean power bus; raw power, GFCI, fans, and lights; HDFU, and output assembly.

D. **Power Assembly Unit**

(1) **General**

The power assembly unit shall include the following sub-assemblies: the DC power supply, SB1/SB2 and DC power bus, AC clean power outlets, advanced detection assembly, and auxiliary I/O assembly.

The power assembly may be provided as one standalone assembly coupled with a minimalized service assembly. The standalone assembly shall include all service assembly features including four flasher unit blades, blade fuses for each of the four flasher unit blades, the high-density flasher unit with serial bus 3 interface, and four circuit breakers for the clean power bus; raw power, GFCI, fans, and lights; HDFU, and output assembly. The single unit power assembly shall also include the complete features of the DC power supply, SB1/SB2 and DC power bus, AC clean power outlets, advanced detection assembly, and auxiliary I/O assembly.

(2) **DC Power Supply** shall be supplied with the ATC cabinet and may be provided as standalone sub-assembly or as an integrated part of the power assembly. The standalone DC power supply shall be a modular, 19 inch EIA rack mounted device, and provide DC voltages necessary to operate the ATC cabinet.

The DC power supply shall be powered from AC line provided by the AC line cord with NEMA Type 5-15 plug. The input voltage range shall be 80 to 270 VAC, 45 to 65 Hz. The DC power supply shall provide power factor corrected features and ensure a full load power factor of 0.95 or better, reducing peak AC line input current and associated stress on wiring. The DC power supply shall use modern switching technology, provide full output regulation of 24 and 48 VDC across changes in AC line voltage, and output load over the full operating temperature range of -37°C to +74°C without the need for a fan. The DC output shall be electrically isolated from AC mains, earth ground, and other DC outputs.

Separate clear LED indicators shall be provided to display green for AC input status, DC output status, and associated fuse integrity. The DC power supply shall be provided with fused outputs for over-current protection and shall be protected against voltage transients by a 1500 watt suppressor.

For high voltage (HV), 120VAC configuration, supply a DC power supply rated at 168 watts, 48 VDC at 1 amp and 24 VDC at 5 amps.

For low voltage (LV), 48 VDC configuration, supply a DC power supply rated at 450 watts, 48 VDC at 8 amps and 24 Vdc at 5 amps.

(3) **SB1/SB2 and DC Power Bus** shall be supplied with the ATC cabinet and may be provided as a standalone sub-assembly or as an integrated part of the power assembly.

The SB1/SB2 and DC power bus as a standalone unit shall include a minimum of eight DB25 connectors or daisy chaining to interconnect the SB1/SB2 communication ports of the assemblies and controller. It shall include a termination circuit at the end of the connections (S8) to prevent radio frequency signal reflection and exposure to environmental elements (e.g. rain). SB1/SB2 and DC power bus shall include one factory molded plug block to bring DC power to the SB1/SB2 and DC power bus; such power shall be distributed to the cabinet assemblies through eight factory molded receptacle blocks. The copper conductors for the DC voltages shall support a minimum of 10 amps. The SB1/SB2 and DC power bus shall be mounted in the EIA rails that shall swing out to provide access to the back of the assemblies mounted in the opposite side.

The SB1/SB2 and DC power bus part of the power assembly unit shall include a minimum of two DB25 connectors marked as “IN” and “THROUGH” to interconnect the SB1/SB2 communication ports of the next adjacent assembly and the controller. The power assembly shall include a minimum of five assembly power factory molded plug blocks to bring DC voltages to the assemblies.

(4) **AC Clean Power Bus** shall be supplied with the ATC cabinet and may be provided as standalone sub-assembly or as part of the power assembly unit. The standalone sub-assembly shall swing out to provide access to the back of the assemblies mounted in opposite side.

The AC clean power bus shall include a minimum of seven single NEMA 5-15 receptacles, to provide AC clean power to the ATC controller and auxiliary devices.

(5) **Advanced Detection Assembly** shall be supplied with the ATC cabinet and may be provided as a standalone sub-assembly or as an integrated part of other assemblies. All necessary serial bus and power cabling shall be provided to connect the assembly to the cabinet busses.

The advanced detection assembly shall include a minimum of three NEMA TS2 Port-1 (SDLC) 15 Pin connectors and used to interface with NEMA TS2 compatible detection systems and hardware. It shall use SB2 to interface with the controller and shall be configurable in the controller.

(6) **Auxiliary Input / Output (I/O) Assembly** shall be supplied with the ATC cabinet and may be provided as a standalone sub-assembly or as an integrated part of another assembly. The auxiliary I/O assembly shall provide functionality similar to a NEMA TS1 D connector panel allowing for 24 VDC inputs and outputs to be available to and from the controller. The auxiliary I/O assembly will be used to send special function outputs from the controller to cabinet devices or receive inputs from cabinet devices to the controller (e.g. UPS relay alarms, blank-out sign relay panels, preemption panels, or detection inputs) All necessary serial bus and power cabling shall be provided to connect the assembly to the cabinet busses.

The auxiliary I/O assembly shall include a minimum of eight inputs, eight outputs, and a connection to logic ground (-24VDC). Each input and output shall be mapped to the controller through SB2 and shall be configurable. Each of the I/O points and the logic ground shall be terminated in factory molded plug blocks for ease of connection.

E. **Input Assembly (24-Channel)**

The ATC cabinet shall include two 24-channel input assemblies. The upper input assembly will be referred to as the “I” assembly and the lower as the “J” assembly.

The input assemblies shall be a 19 inch EIA rack mounted assembly providing twelve slots of 22/44 pin PCB sockets. A serial interface unit shall be provided with each assembly, in its location mated to a DIN 96-pin connector. The serial interface unit shall provide interface and control between the ATC controller and the input assemblies via system SB1/SB2. Each slot shall be capable of providing two inputs into the controller. Slot 11 and 12 of the J assembly shall be configured to support emergency vehicle preemption equipment. These two slots shall be configured in such a way as to provide sufficient power to the preemption detector modules. Input assemblies shall be capable of supporting pedestrian push button detections through any slot, with the use of a DC isolator.

Each input assembly shall be provided with an opto input card. The opto input card shall be equipped with four LED indicators and four toggle switches. Toggling any of the four switches will insert an input to the controller.

F. **Input Test Panel Assembly**

The ATC cabinet shall include an input test panel assembly used to place vehicle, pedestrian, or preemption calls to the ATC controller through system SB1/SB2. The input test panel assembly may be a standalone 19 inch EIA rack mounted unit or integrated into another sub-assembly. The input test panel assembly shall be provided with 16 toggle switches and include a LED function indicator light for each switch. Switches shall be provided with the following three positions: ON (place call), OFF (normal detector operation), and momentary ON (place momentary call and return to normal detector operation after the switch is released). Each switch shall be permanently labelled 1 through 16. The 16 toggle switches shall be mapped to an internal serial interface unit and can be addressed to serial interface unit 10-13 by a separate 4 position selector switch on the front panel.

G. **Field Input Termination Assembly**

The ATC cabinet shall include two 24-channel field input termination assemblies. The 24-channel field input termination assembly shall be coupled with the corresponding 24-channel input assembly. The field input termination assembly shall be provided with positions for landing 24, two-wire inputs and their associated earth ground wires. The field input termination assembly shall have positions for 12 detection module suppressors. Supply the detection module suppressors with the cabinet. The 24-channel field output termination assembly shall be mounted across the EIA rails. The 24-channel field input termination assembly shall swing down to provide access to the back of the assemblies mounted in the opposite side.

H. **Output Assembly (16- or 32-Channel)**

The ATC cabinet with 16 output channels shall be a 19 inch EIA rack mounted device and include one 16 channel output assembly. The output assembly shall house eight high density switch packs and shall provide forty eight load circuits. One serial interface unit shall provide interface and control between the output assembly and the ATC. The output assembly shall house the cabinet monitor unit, main contactor, stop time switch, flash / auto switch, four circuit breakers and momentary 24 VDC bypass switch.

The ATC cabinet with 32 output channels shall be a 19 inch EIA rack mounted device and include one 32-channel output assembly. The output assembly shall house sixteen high-density switch packs and shall provide ninety six load circuits. Two serial interface units shall provide interface and control between the output assembly and the ATC. The output assembly shall house the cabinet monitor unit, the main contactor, stop time switch, flash / auto switch, eight circuit breakers and momentary 24 VDC bypass switch.

I. **Field Output Termination Assembly**

The 16-channel field output termination assembly (FOTA) shall be interconnected with the 16-channel output assembly and shall house eight high density flash transfer relays (HDFTR) and 16 flash program blocks (FPB). The HDFTRs and FPBs shall be provided to control and select the color (red, yellow, or dark) during ATC cabinet flash mode. Pluggable and replaceable transient protectors shall be provided at the field terminals for the protection of the high density switch packs. A visual method shall be provided to indicate when the transient protector has failed. Label each HDFTR position with the number of its associated high density switch pack (1-16). Each FPB position shall be labelled with the number of its associated channel (1-16). A FOTA shall be provided with sixteen 6-position factory molded terminal blocks. Each terminal block receptacle shall be labelled with the number of its associated channel (1-16). Additional labels shall be provided to clearly indicate which terminals correspond to the red, yellow, and green switch pack outputs. The color of these labels shall be matched to the color of their associated output (red, yellow, or green).

Provide one field output termination assembly with a 16-channel output assembly.

Provide two field output termination assemblies with a 32-channel output assembly.

The 16-channel field output termination assembly shall be mounted across the 19 inch EIA rack directly behind the output assembly. The 16-channel field output termination assembly shall swing down to provide access to the HDSP transient protectors.

6. **ATC Cabinet Components**

A. **Cabinet Monitor Unit** (CMUip) shall be provided for cabinet monitoring, to query various cabinet conditions, and, if the application requires action, transfer control from the ATC to a flashing control mode. The CMUip shall be developed specifically for the ATC cabinet, pluggable, interconnect with the output assembly, and include communication circuitry to interface SB1 and SB3. The CMUip shall include a microprocessor, memory devices including non-volatile memory, and front panel indicators. The CMUip shall have the capability to fully monitor 32 output channels and use direct SB3 communication to each high density switch pack – flasher unit for field voltage and load current status. The CMUip shall be programmed with an interchangeable Datakey and include an Ethernet port for diagnostics and remote management. The CMUip shall include a built-in diagnostic wizard that: analyzes the ATC controller output commands and high density switch pack – flasher unit field input status; isolates whether the cabinet fault was caused by an ATC malfunction, failure in the load bay, or field wiring; identifies the faulty channels and output directly; and provides guidance on how the technician should isolate the cause of the malfunction.

The high voltage (HV) rated CMUip shall be provided for 120 VAC operation.

The low voltage (LV) rated CMUip shall be provided for 48 VDC operation.

B. **MonitorKey Programming Tool** shall be provided with the capability to read and write data from the CMUip Datakey device. The MonitorKey software shall be of the same manufacturer and fully compatible with the provided CMUip.

C. **Cabinet Monitor Unit – Auxiliary Display Unit** (ADU) shall be provided of the same manufacturer and fully compatible in function and operation with the CMUip. The ADU shall be a 19 inch rack mounted device, utilize one rack space, and powered from the cabinet 48 VDC supply. All indicators shall be clear LEDs and shall not depend on reflectors or diffusion as part of the design. Clear LEDs shall not appear to be on when exposed to ambient light. The ADU shall provide 32 columns of LED indicators corresponding to channels 1 through 32. Each column shall be composed of a red, yellow, and green status plus a blue LED for fault status. The ADU shall provide an enhanced user interface for the ATC cabinet monitor unit system and provide the ability to view status, configuration settings, voltages, and event logs through an LCD menu driven display. The LCD display shall provide detailed status information from the CMUip and displays from the built-in diagnostic program providing views of the signal states involved in a fault, pinpoints faulty signal inputs, and guidance on how the technician should isolate the cause of a malfunction.

D. **High Density Switch Pack - Flasher Unit**

Compact, pluggable, modular PCB-based high density switch pack – flasher units (HDSP-FU) shall be provided with the ATC Cabinet. The HDSP-FU shall be compatible with ultra-low power (less than 2 watts) LED signal heads and have a current monitoring feature for each output of each channel. The HDSP-FU shall use real-time standardized high speed SB3 communications to send a complete set of RMS voltage and load current measurements to the cabinet monitor unit. The HDSP-FU shall be 4-1/2 inches high x 6-1/2 inches deep and equipped with a handle, reset push button switch, six RYG LED indictors, four flasher LED indicators, one power LED indicator, and two Rx/Tx LED indicators. The HDSP-FU shall function as either a switch pack (HDSP) or as a flasher unit (HDFU). When installed in the output assembly, the HDSP-FU shall function as a switch pack with two RYG channels of operation (six outputs). When the HDSP-FU is installed in the service/power assembly, it shall function as a four output flasher unit.

The high voltage (HV) rated HDSP-FU shall be provided for 120 VAC operation.

The low voltage (LV) rated HDSP-FU shall be provided for 48 VDC operation.

E. **Serial Interface Unit** shall function as the cabinet communications and control unit. The SIU shall be a compact, modular PCB-based device with a half-width faceplate, and pluggable. The SIU shall use real-time standardized 614.4 Kbps communications with the ATC to transfer command and response data on SB1 and SB2. Each SIU shall be equipped with 54 programmable input/output pins, four optically isolated input pins, one line sync reference input pin, and 4 address select input pins. The optically isolated inputs shall be either 120 VAC or 24 VDC. The SIU outputs shall be rated at 150 mA continuous sink current, a 500 mA typical current limit on each output, rated to 50 V, and use a voltage clamp for inductive transient protection. The SIU shall be equipped with a front panel LED indicator that can report the current SIU assembly address assignment for cabinet configuration verification. The SIU shall be equipped with a front panel serial port used to provide diagnostics using monitoring software.

F. **Flash Transfer Relays**

The high-density flash transfer relay (HDFTR) shall have a hermetically sealed cover to ensure it is moisture proof. The HDFTR shall be filled with dry nitrogen. The HDFTR shall be provided with a shock and impact resistant metal can cover with solid and bend proof pins. The HDFTR shall be rated for 5 amps at 120 VAC switching, 10 amps surge. The coil voltage shall be 48 VDC. The HDFTR shall have an LED indicator to display contact transfer position.

G. **Cabinet Surge Protection Device** shall be modular, use a pluggable 12-position Beau 5412 connector, rated for 120 VAC, single phase, operation, and integrate as part of the service assembly. The cabinet surge protection device shall incorporate warning and failure indicators with a dry relay contact remote sensing circuit. The cabinet surge protection device shall be rated at continuous service current of 15 amp, maximum clamp voltage of 340 VAC, and filter noise and spike from 10 KHz to 25 MHz with a peak surge current of 45.5 kA/total.

H. **High Density Switch Pack Transient Protector** shall be designed specifically for traffic controller cabinet operation, modular, and pluggable. Provide an epoxy encapsulated unit equipped with 9-position 5.08 mm factory molded connector. The unit shall protect up to six circuits. The high density switch pack transient protector shall have an operating voltage of 120 VAC, clamping voltage of 340 VAC, and peak surge current of 39 kA. The unit dimensions shall be no greater than 2 inches high by 0.7 inches wide by 2 inches long.

I. **Detection Module Suppressor** shall be modular and pluggable. Provide an epoxy encapsulated unit equipped with 6-position 5.08 mm factory molded connector. The unit shall provide differential and common mode protection for up to six circuits. Provide device operating voltage of 75 VDC and clamping voltage of 130 VDC. The unit dimensions shall be no greater than 2 inches high by 0.7 inches wide by 1.2 inches long.

J. **Main Contactor** shall be mercury free, rated at 120 VAC at 60 amps. The MC coil shall be rated at 48 VDC and shall be equipped with an input indicator and SPST – N.O. contacts.

K. **Two-Channel DC Isolator** shall conform to the ITS Cabinet Standard v01.02.17b dated November 16, 2006 for Two-Channel DC Isolator.

L. **Two-Channel AC Isolator** shall conform to the ITS Cabinet Standard v01.02.17b dated November 16, 2006 for Two-Channel AC Isolator.

M. **Shelf - Type I**

Provide a shelf that mounts across all four 19 inch EIA rack rails and provides a surface that extends from the front to the back rails. The shelf shall be of the same material as the cage rails and have a minimum weight capacity of 200 lbs. to support up to two backup power system batteries. The shelf shall be vented to allow heat to pass through the shelf surface.

N. **Shelf - Type II**

Provide a cantilever shelf that mounts across a 19 inch EIA rack and is mounted behind the auxiliary communication panel. The shelf - Type II shall provide a minimum surface of two inches. The shelf shall be of the same material as the cage rails and have a minimum weight capacity of 200 lbs. to support up to two backup power system batteries. The shelf shall be vented to allow heat to pass through the shelf surface.

O. **AC Power Distribution Unit** shall be a 19 inch EIA rack mounted device and installed in Segment B for the purpose of supplying clean AC power to communications equipment. The AC power distribution unit shall interface with the service assembly, clean power receptacle mounted in Segment A. The unit shall include a minimum of seven single NEMA 5-15 receptacles and include a resettable load protection device.

P. **Auxiliary Communications Panel** shall be used to mount lease line communication hardware on a vertical plywood back board installed behind the fifth door of the cabinet. The plywood backboard shall be attached to a metal panel structure that mounts across the EIA rails and is set back 8 inches into the rack cage.

The panel shall be made up of rack mount angles (ears), solid side walls, and metal back plate. The panel shall be fabricated from the same material as the cabinet. The panel shall be mounted across the two front EIA rails with a minimum of four rail attachment points per side.

(1) **Panel Dimensions**

The auxiliary communications panel shall be manufactured to mount across the two 19 in. EIA rails with a minimum opening of 17 inches inside the rails. The panel shall be 20 inches tall (± 1/2 inch), and fabricated to provide 8 inches of depth into the rack cage.

(2) **Panel Board and Power Receptacles**

A 3/4 inch plywood backboard shall be mounted across the back panel. The panel board shall be centered on the panel, be 20 inches tall and have a minimum of a 1/2 inch gap between the backboard and the panel side walls. One 15 amp double duplex GCFI receptacle shall be installed, mounted to the comm. panel and passing through the panel board, 4 inches from the right and 6 inches from bottom of the panel. Install a 60 inch SJOOW rubber cord 15 Amp male cord cap inside the cabinet connected to raw AC power.

7. **Cabinet Base Adapter** shall be fabricated of the same material and finish as the cabinet housing.

   A. **Base Adapter Dimensions** shall be a minimum of 12 inches high and similar dimensions as the ITS Housing #3, 44 1/2 inches wide by 26 inches deep (± 1/2 inch). The top and bottom of the base adapter shall have an opening that matches the opening of the cabinet housing, approximately 36 inches wide by 20 inches long (± 1/2 inch).

   B. **Hardware**

   Four bolt sets shall be supplied with each cabinet base adapter. A bolt set shall consist of one bolt, two flat washers, and one nut. The bolt shall be stainless steel, 3/4 inch in diameter, and shall be 1-1/2 inches long. Flat washers and nut shall be made of the same material as the bolt.

   C. **Anchor Bolt Holes** shall be installed on the top and bottom of the Cabinet Base Adapter. Four, 1 inch by 2 inch obround, punched holes shall be installed on the top of the adapter that match the anchor bolt holes of the ITS Housing #3 type cabinet. Provide bolts, nuts, washers, and lock washers to bolt the cabinet to the base adapter through these holes. Four, 1 inch by 2 inch obround, punched holes shall be installed on the bottom of the adapter that also match the anchor bolt holes of the ITS Housing #3 type cabinet.

   D. **Structural Requirements**

   The base adapter shall not sag under the weight of the fully loaded cabinet. Any internal members shall not obstruct cables going from Segment A to Segment B of the cabinet, nor to the conduits below. All seams shall be continuously welded and ground smooth.

8. **Documentation**

   Provide one electronic version (PDF format) and two full size, 24 inch by 36 inch, prints of the cabinet circuit diagram. The prints shall be produced from the original drawing and shall be clear and legible. Place both hard copies of the circuit diagram inside the sliding drawer in a readily accessible waterproof enclosure.

9. **Integration and Testing** shall be conducted in accordance with Section 703.03(j) of the Specifications.

10. **Warranty**

    Traffic signal equipment cabinets and all cabinet components shall be warranted to be free of defects in material and workmanship for three years from date of acceptance by the Department. The manufacturer's warranty shall be provided in writing with each traffic signal equipment cabinet. During the warranty period, the manufacturer shall repair with new materials, or replace at no charge, any product exhibiting a warranty defect. All materials returned for warranty repairs shall be made through the manufacturer or product distributor at no added charge to the Department.

III. CONFIGURATIONS

ATC Cabinet Configuration

The ATC cabinet shall be loaded with the following components:

1. **General**

   - MonitorKey programming tool

2. **Service Assembly/Power Assembly:**

   - One Cabinet Surge Protection Device
   - One High Density Flasher Unit (HV) for High Voltage Cabinets
   - One High Density Flasher Unit (LV) for Low Voltage Cabinets

3. **Input Assembly - 24-Channel (Two Units):**

   - Two Serial Interface Units
   - Three DC Isolators
   - Two AC Isolators
   - Two Opto Input Cards

4. **Field Input Termination Assembly - 24-Channel (Two Units):**

   - Twelve Detection Module Suppressors

5. **Output Assembly (16-Channel):**

   - One Serial Interface Unit
   - Eight High Density Switch Pack (HV) for High Voltage Cabinets
   - One Cabinet Monitor Unit (HV) for High Voltage Cabinets
   - Eight High Density Switch Pack (LV) for Low Voltage Cabinets
   - One Cabinet Monitor Unit (LV) for Low Voltage Cabinets

6. **Output Assembly (32-Channel):**

   - Two Serial Interface Units
   - Sixteen High Density Switch Packs (HV) for High Voltage Cabinets
   - One Cabinet Monitor Unit (HV) for High Voltage Cabinets
   - Sixteen High Density Switch Packs (LV) for Low Voltage Cabinets
   - One Cabinet Monitor Unit (LV) for Low Voltage Cabinets

7. **Field Output Termination Assembly (16-Channel):**

   - Eight High Density Flash Transfer Relays
   - Eight High Density Switch Pack Transient Protectors
   - Sixteen Red Flash Program Blocks
   - Four Yellow Flash Program Blocks
   - Four White Flash Program Blocks

8. **Field Output Termination Assembly (32-Channel):**

   - Sixteen High Density Flash Transfer Relays
   - Sixteen High Density Switch Pack Transient Protectors
   - Thirty-Two Red Flash Program Blocks
   - Eight Yellow Flash Program Blocks
   - Eight White Flash Program Blocks

IV. PROCEDURES

1. **Ground-Mounted ATC Traffic Signal Cabinets** shall be installed on a concrete foundation in conformance with Section 700 of the Specifications and the Standard Drawings. Foundations will be measured and paid for separately.

2. **Base Adapter**

   Apply silicone sealant to the mating surface of the base adapter before bolting to the foundation. Also apply silicone sealant to the mating surface of the cabinet before bolting to the base adaptor. Plumb the cabinet, using shims if necessary, and aligned it with the front edge of the base adapter.

V. MEASUREMENT AND PAYMENT

ATC Cabinet— 5-Door Configuration will be measured in units of each and will be paid for at the Contract each price. This price shall include furnishing, installing, testing all equipment and materials, and supplying support, training, shop drawings, and documentation.

Payment will be made under:

Pay Item	Pay Unit
ATC Cabinet— 5-Door Configuration (*No. of Outputs, HV or LV*)	Each

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
BIORETENTION SOIL MIXTURE

August 10, 2018

I. DESCRIPTION

This work shall consist of furnishing and applying bioretention soil media and preparing planting bed in accordance with these specifications, to the depths and limits shown on the Plans, or as directed by the Engineer.

II. MATERIALS

Soil for Bioretention Basins

Soil media for bioretention basins shall have a USDA Classification of Loamy Sand. The soil media shall consist of 72 to 77 percent granular sand by weight and 23 to 28 percent topsoil class B by weight. Moisture content shall be approximately 15 percent with a pH in the range of 6.0-7.0. Particle size D50 shall be 0.02 Inch and the maximum particle size shall be 0.2 Inch. Soil media may be mixed on-site or purchased pre-mixed from an off-site source approved by the Engineer.

- Topsoil shall conform to Section 244 of the Specifications. The clay content of topsoil shall not exceed 20 percent by weight.

- Sand shall be granular sand conforming to Section 202.03 of the Specifications for Grading A Fine Aggregate.

III. PROCEDURES

Materials shall be tested in accordance with Section IV and materials reports submitted to the Engineer for review before installing. Approved materials shall be thoroughly mixed on site before installation. Installation may then proceed as follows:

- Areas to receive bioretention media shall be excavated in accordance with the plans, details, and these specifications.

- Bottom and sides of excavated areas shall be scarified with excavating equipment having a toothed bucket.

- Following installation of perforated pipe and aggregate, bioretention media shall be placed in 12” lifts and lightly compacted so as not to damage perforated pipe. Bioretention soil shall be brought to 2” below final grade along the bottom plane of the basin.

- Following installation of bioretention media, planting bed area shall be prepared by adding 2” depth topsoil class B and tilling in to bioretention soil mixture to a depth of 4” to 6” depth and grading and lightly compacting to achieve final grade.

- Following bed preparation the entire bioretention area shall be planted in accordance with the plans and Section 605 as modified herein.

- If there is a gap of time of more than 7 days between preparing the basin and installing plant materials, the bed areas shall be mulched with shredded cypress mulch at a depth of 1". Mulch shall be raked back prior to excavating plant pits. The mulch shall be raked back over the planted areas and a final cover of 2" depth of mulch shall be added after planting is complete. If mulching is completed in one operation, 3" of mulch shall be applied.

- Bioretention soil mixture and prepared planting bed mixture excavated for planting trees and shrubs, etc., may be used as backfill for planting pits.

- Bioretention plantings shall be mulched immediately after planting.

IV. TESTING

The Contractor shall provide the quality control and the testing necessary to determine conformance with the materials specifications. All testing shall be performed by an accredited AASHTO Materials Reference Laboratory or a laboratory certified by another equivalent nationally recognized certification body.

V. MEASUREMENT AND PAYMENT

Bioretention Soil Mixture will be measured in cubic yards and will be paid for at the Contract cubic yard price of material necessary to backfill the bioretention area to the specified depth, width, and grades. This price shall include installing and lightly compacting the soil mixture, preparing plant beds with additional materials, tilling, raking, and edging.

Payment will be made under:

PAY ITEM	PAY UNIT
Bioretention Soil Mixture	Cubic Yard

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SHREDDED CYPRESS MULCH

July 9, 2018

I. DESCRIPTION

This work shall consist of furnishing and placing shredded cypress mulch in the bioretention facilities in accordance with the specifications, as shown on the Plans, and as directed by the Engineer.

II. MATERIAL

Mulch shall be obtained from cypress trees. Hardwood mulch shall not be used as it has a tendency to float away when the bioretention facility fills with water. Cypress mulch shall be shredded to form interlocking fibers when placed, prompting the mulch to stay in place.

III. SUBMITTALS

Provide product label for review.

IV. PROCEDURES

Place shredded cypress mulch as specified in the plans.

V. MEASUREMENT AND PAYMENT

Shredded cypress mulch will be measured in cubic yards and will be paid for at the Contract cubic yard price. This price shall include furnishing and installing.

Payment will be made under:

Pay Item	Pay Unit
Storm Water Mgt. Shredded Cypress Mulch	Cubic Yard

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
PAVEMENT STABILIZED GRASS ENTRANCE

July 9, 2018

I. DESCRIPTION

This work shall consist of furnishing and installing of a Pavement Stabilized Grass Entrance in accordance with these specifications, as shown on the Plans, and as directed by the Engineer.

II. DETAIL REQUIREMENTS

The Pavement Stabilized Grass Entrance (PSGE) shall consist of permeable interconnected plastic or masonry units which are designed for vehicle traffic, or parked vehicles, and include spaces for grass to grow within the units. PSGE units often have a hexagonal or honeycomb shape. PSGE units shall have a compressive strength of more than 80,000 pounds per square foot. PSGE units shall include a means of mechanically connecting adjacent units to prevent separation of the units. Once established, the PSGE entrance will have the appearance of grass, and the underlying PSGE units will not be visible.

III. MEASUREMENT AND PAYMENT

Pavement Stabilized Grass Entrance will be measured in square yards and will be paid for at the Contract square yard price. This price shall include excavating, grading, and furnishing and installing the PSGE units, aggregate, soil, seed, and fertilizer, or other items necessary for the construction.

Payment will be made under:

Pay Item	Pay Unit
Pavement Stabilized Grass Entrance	Square Yard

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
STEEL PLATE BRIDGING UTILITIES

0007-053-107, M501
March 30, 2017

I. Background

Steel plate bridging may be necessary to accommodate excavation work. Steel plate bridging shall conform to these specifications.

II. Terms and Conditions

1. Consideration of Use

The following factors shall be factored into the decision of whether to use steel plate bridging:

A. Traffic volume and composition.
B. Duration and size of the proposed excavation.
C. Weather conditions.

2. Implementation

When backfilling operations of an excavation in the traveled way, whether transverse or longitudinal, cannot be properly completed within a work day, steel plate bridging with a non-skid surface and shoring may be used to preserve unobstructed traffic flow. In such cases, the following conditions shall apply:

A. Steel plate bridging on interstates are not allowed
B. Steel plates used for bridging must extend a minimum of 12” beyond the edges of the trench.
C. Steel plate bridging shall be installed to operate with minimum noise.
D. The trench shall be adequately shored to support the bridging and traffic loads.
E. Temporary paving with cold asphalt concrete shall be used to feather the edges of the plates, if plate installation by Method (2), is used.
F. Bridging shall be secured against displacement by using adjustable cleats, shims, or other devices.

Steel plate bridging and shoring shall be installed using either Method (1) or (2) as required by the Engineer:

Method (1) (for speeds greater than 45 mph)

The pavement shall be cold planed to a depth equal to the thickness of the plate and to a width equal in length to the dimensions of the plate.

Method (2) (for speeds less than 45 mph)

Approach plate(s) and ending plate (in longitudinal placement) shall be attached to the roadway by a minimum of 2 dowels, pre-drilled into the corners of the plate, and drilled 2" into the pavement. Subsequent plates shall butted to each other. Fine graded asphalt concrete shall be compacted to form ramps (maximum slope 8.5% with minimum 12" taper) to cover all edges of the steel plates. When steel plates are removed, the dowel holes in the pavement shall be backfilled with either graded fines of asphalt concrete mix, concrete slurry or equivalent slurry that is satisfactory to the Engineer.

The Contractor shall maintain steel plates, shoring, and asphalt concrete ramps and ensuring that they meet or exceed the minimum specifications. Unless specifically approved by the Engineer, use of steel plate bridging shall not exceed 4 consecutive working days in any week. Backfilling of excavations shall be covered with a minimum 3" temporary layer of cold asphalt concrete.

The following table shows the advisory minimal thickness of Steel plate bridging required for a given trench width (ASTM A36 grade steel, designed for HS20-44 truck loading).

Trench Width	**Minimum Plate Thickness**
10"	1/2"
1'-11"	3/4"
2'-7"	7/8"
3'-5"	1"
5'-3"	1-1/4"

Steel plate bridging for spans greater than 5'3" shall be designed by a Professional Engineer holding a valid license to practice engineering in the Commonwealth of Virginia.

Multiple steel plates shall not be used to obtain required thickness.

Steel plates within the right-of-way, whether used in or out of the traveled way, shall not be deformation. The trueness of steel plates will be determined by using a straight edge and any plate that is permanently deformed will be rejected.

Steel plates used in the traveled way shall have a surface that was manufactured with a nominal Coefficient of Friction (COF) of 0.35 as determined by California Test Method 342 (see appendix H, Encroachment Permits Manual). If a different test method is used, the Contractor shall use standard test plates with known coefficients of friction to correlate skid resistance results to California Test Method 342. The Contractor shall determine what amount of surface wear is acceptable based on the test data, and shall independently ascertain when to remove, test, or resurface an individual plate.

The Engineer will not direct that plates shall be removed unless it is permanently deformed or delivered without the required surfacing.

A Rough Road sign (W33) with black lettering on an orange background shall be used in advance of steel plate bridging. This sign shall be used along with any other required construction signing.

Surfacing requirements are not necessary for steel plates used in parking strips, on shoulders not used for turning movements, or on connecting driveways, etc., not open to the public.

The cost of steel plate bridging shall be included in the contract price of the bridged utility.

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
STORM WATER MANAGEMENT LOW PERMEABILITY LINERS

July 9, 2018

I. DESCRIPTION

This work shall consist of furnishing and installing a low permeability liner for Stormwater Management (SWM) Facilities at the locations designated on the Plans and details in accordance with these specifications and as directed by the Engineer. This specification does not address placement of dam embankment material or clay core cut-off trenches.

II. MATERIAL

The SWM liner soil shall be classified as CL, CH or MH in accordance with ASTM D 2487 and shall have a maximum coefficient of permeability of 1×10^{-5} cm/sec in accordance with ASTM D 5084, after compaction. The maximum particle size shall be three inches in its largest dimension. Natural soils which do not meet these specifications may be blended with bentonite to provide the specified permeability characteristics.

Geosynthetic Clay Liner shall have a maximum coefficient of permeability of 1×10^{-8} cm/sec in accordance with ASTM D 5887.

III. SUBMITTALS

The Contractor shall submit the following for each type of liner material for review and approval prior to use:

a) Soil classification tests and permeability test (ASTM D 5084) results of unmodified soils proposed for use as SWM liners.
b) A mix design supported by laboratory testing for soils modified with bentonite.
c) A Source of Material and Manufacturer's Certification for geosynthetic liners.

IV. PROCEDURES

The Contractor may select the type of impervious liner to be used, i.e. natural clay, blended soil or geosynthetic material, unless otherwise noted on the plans. All areas to receive the impervious liner shall be free of organic, frozen, wet, soft or loose soils, fractured rock, or other deleterious materials. These areas shall be evaluated by the Engineer before placement of the lining material.

Natural clay liners shall have a final compacted thickness of no less than 12 inches. All lining material shall be placed in loose lifts with a maximum depth of 8 inches before compacting and shall be compacted to a minimum 90% of the maximum dry density (VTM-1) at, or up to 30% above, the optimum moisture content. Remove all stones larger than 3 inches in its maximum dimension from the liner subgrade or low permeability soil liner material.

Ensure adequate moisture is present when using blended materials for a liner. Any material that does not meet the moisture or compaction requirements above shall be reworked, re-compacted, and retested until the required moisture content and density are achieved. The Contractor shall complete Construction Quality Control field density and moisture tests at the rate of one test for every 500 square yards of material placed for low permeability liner construction at no additional cost to the Department. Complete a minimum of one compaction test for every lift of fill placed per day.

The Contractor shall protect the liner material from excessive drying during construction. Place a minimum 12-inch layer of topsoil or other approved material over the liner.

V. MEASUREMENT AND PAYMENT

Low permeability liner will be measured in square yards and will be paid for at the Contract square yard price. This price shall include excavating, preparing subgrade, conditioning soil, blending, compacting, grading, and moisture conditioning. Furnishing and installing topsoil or other cover material will be measured and paid for in in accordance with the applicable specifications.

No payment will be made for geosynthetic clay liners that become ineffective, are damaged due to improper storage, or for bentonite used in blended soils.

Payment will be made under:

Pay Item	**Pay Unit**
Low Permeability Liner	Square Yards

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
STORMWATER MISCELLANEOUS

August 1, 2018

I. DESCRIPTION

These specifications cover miscellaneous stormwater facility items and structural components related to stormwater facilities in accordance with the Specifications, this special provision, and as directed by the Engineer.

II. DETAIL REQUIREMENTS

1. **Underdrains** shall be 6-inch rigid schedule 40 PVC pipe conforming to ASTM F758, Type Ps 28 or ASTM F949. Underdrains shall be perforated, except for the last 5-ft section of pipe if connected directly to a storm sewer drainage structure, with 4 rows of 3/8 inch (9.5 mm) holes with a hole spacing of 3.25 + 0.25 inches (82.5 + 6.4 mm) or a combination of hole size and spacing that provides a minimum inlet area greater than 1.76 square inches per linear foot (37.2 cm2/m) of pipe or be perforated with slots 0.125 inches (3.2 mm) in width that provides a minimum inlet area greater than 1.5 square inches per linear foot (31.8 cm2/m) of pipe.

   Pipe joints and storm sewer drainage structure connections shall be sealed watertight. Pipe sections shall be coupled using suitable connection rings and flanges, gaskets, or other construction adhesive. Turns and connections used in the underdrain network shall consist of standard commercially-available PVC fittings. Field connections to storm sewer drainage structures and pipes shall be sealed with polymer grout material that is capable of adhering to surfaces. Underdrain pipe shall be capped (at structure) until completion of site work. Underdrain pipes shall be spaced at a maximum of 20 feet apart laterally, unless otherwise indicated on the plans.

2. **Observation wells, or cleanouts (Pipe SWM Basin Underdrain Cleanouts)** shall consist of anchored 4-inch or 6-inch diameter perforated PVC pipe fitted with a threaded cap, and shall be installed flush with the ground surface where shown on the plans. Cleanouts shall be placed such that the entire underdrain network may be readily cleaned. If herbaceous cover is specified as part of the design plans instead of mulch ground cover, a metal stake extending 2-3 feet vertically from the ground surface, shall be used to easily locate and mark the cleanouts to prevent mower damage during maintenance operations. Gaskets shall conform to Section 212.02(h) of the Specifications.

III. MEASUREMENT AND PAYMENT

Underderains will be measured in linear feet and will be paid for at the contract linear foot price. This price shall include furnishing and installing.

Observation wells or Cleanouts (Pipe SWM Basin Underdrain Cleanouts) will be measured in units of each and will be paid for at the contract each price. This price shall include furnishing and installing.

Payment will be made under:

Pay Item	Pay Unit
Underdrains (Pipe 6" Perforated Pipe)	Linear Foot
Underdrains (Pipe 6" Non-Perforated Pipe)	Linear Foot
Observation wells	Each
Pipe SWM Basin Underdrain Cleanouts	Each

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
TEMPORARY DRAINAGE

July 9, 2018

I. DESCRIPTION

This work shall consist of placing temporary drainage structures at the locations designated on the plans and details in accordance with these specifications and as directed by the Engineer. The lower section of the temporary drainage structures will be used as the lower section of the corresponding permanent drainage structure.

II. MATERIAL

Temporary drainage structure and permanent drainage structure components shall conform to Section 302.02 of the Specifications.

III. **PROCEDURES**

The plans designate certain structures to have temporary manhole tops in order to allow for the storm sewer system to function during each Temporary Traffic Control phase. These temporary manholes shall be modified to replace the manhole frame & cover with a drop inlet and shall be adjusted to the finished grade. The inverts of the temporary manholes correspond to the inverts of the permanent structures. The pipes connecting the temporary manholes shall be the permanent pipes.

The Contractor shall backfill the structures and connecting pipes in accordance with Section 302 of the Specifications. Temporary pavement or steel plates shall be installed by the Contractor to enable use of the roadway by the traveling public while the temporary drainage structures are in place.

IV. MEASUREMENT AND PAYMENT

Temporary drainage will be paid for at the Contract lump sum price. This price shall include furnishing, installing, maintaining, and removing and disposing of supplemental risers, rings, and manhole frames and covers necessary to support temporary traffic control phasing and to convert the temporary drainage structures to permanent storm sewer structures. The price shall also include any temporary pavement and steel plates.

Payment will be made under:

Pay Item	**Pay Unit**
Temporary Drainage	Lump Sum

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SIDEWALK MATERIALS

April 23, 2019

I. DESCRIPTION

This work shall consist of furnishing and installing sidewalk materials consisting of recycled asphalt pavement (RAP) aggregate base course for the permanent path and limestone aggregate cap material for the temporary sidewalk in accordance with this special provision, Sections 303, 305, and 309 of the Specifications as applicable, and as directed by the Engineer.

II. MATERIALS

Aggregate Base Material RAP shall be tested in accordance with VTM-25. Test results shall conform to the following gradation:

% by Weight of Material Passing Sieve		
1-1/2 in	**1 in**	**No. 4**
100	80-100	20-60

The RAP shall be free of trash and deleterious materials.

Aggregate Material Cap shall be limestone aggregate conforming to the following VTM-25 gradation:

% by Weight of Material Passing Sieve				
1/2 in	**3/8 in**	**No. 4**	**No. 16**	**No. 100**
100	90-100	65-80	30-45	10-20

III. PROCEDURES

The Contractor shall excavate and grade the temporary sidewalk in accordance with Section 303 of the Specifications and furnish, install, shape, and compact the aggregate base and limestone aggregate cap in accordance with Section 305 of the Specifications. The aggregate base shall be compacted to 90 percent of the theoretical maximum density. The limestone cap course finish surface shall be smooth, dense, and regular. If a roller is used to compact the material, it should only be operated in static mode.The Contractor shall maintain the temporary sidewalk to provide for safe use as necessary or as directed by the Engineer.

The Contractor shall furnish, install, grade, and compact the permanent sidewalk RAP aggregate base course in accordance with Section 309 of the Specifications. The Contractor shall determine the RAP theoretical maximum density in accordance with VTM-1 and shall place and compact the RAP aggregate base in accordance with Section 309.05 of the Specifications The minimum density of the RAP aggregate base shall be 95 percent of the theoretical maximum density.

IV. MEASUREMENT AND PAYMENT

Aggregate Base Material RAP will be measured in tons, as documented by certified weigh tickets, and will be paid for at the Contract ton price. This price shall include furnishing, installing, shaping, and compacting.

Aggregate Material Limestone Cap will be measured in tons documented by certified weigh tickets and will be paid for at the Contract ton price. This price shall include excavating, grading, furnishing, installing, compacting, maintaining, removing and disposing of when no longer needed and restoring the disturbed area.

Payment will be made under:

Pay Item	Pay Unit
Aggregate Base Material RAP	Ton
Aggregate Material Limestone Cap	Ton

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 502 – INCIDENTAL CONCRETE ITEMS
(INTEGRALLY COLORED AND TEXTURED CONCRETE)

June 10, 2019
0612-047-631, C-501

Section 502 – Incidental Concrete Items is amended as follows:

Section 502.01 – Description is amended to include the following:

This work shall include integrally coloring, texturing, sealing, curing, and warranting decorative textured concrete in the areas specified on the Plans in accordance with these specifications and as directed by the Engineer.

Section 502.02 - Materials is amended to include the following:

Materials shall conform to Section 217 of the Specifications.

Section –502.03 – Procedures is amended to include the following:

(b) Pre-job Conference

4. A meeting shall be held to discuss the project and application materials one week prior to placement of integrally colored concrete.

5. The meeting should include the Engineer, Landscape Architect, Construction Inspector, Prime Contractor, Sub Contractor, Ready-mix Concrete Representative, and a Manufacturer's Representative as practicable.

6. Color and pattern samples of Small River Rock and Brick Herringbone shall be provided for the Department to review at the Pre-job Conference.

(c) Integrally Colored Concrete Mockups:

3. At off-site location selected by the Engineer, place and finish a minimum 10 feet by 10 feet area. Both samples shall have a curvilinear edge.

For accurate color, the quantity of concrete mixed to produce the sample should not be less than 3 cubic yards (or not less than 1/3 the capacity of the mixing drum on the ready-mix truck) and should always be in full cubic yard increments. Excess material shall be discarded according to local regulations.

Construct mockup using processes and techniques intended for use on permanent work, including curing procedures. Include samples of control, construction, and expansion joints in sample panels. Mockup shall be produced by the individual workers who will perform the work for the Project.

Retain samples of cements, sands, aggregates and color additives used in mockup for comparison with materials used in remaining work.

Accepted mockup field sample provides visual standard for work of Section.

Mockup shall remain through completion of work for use as a quality standard for finished work.

Remove mockup when directed.

(c) Do not add water to concrete mix in the field.

(d) Prior to construction, the Contractor shall submit a plan for installing material including location of construction joints and control joints that will align with size and pattern of imprinting tools to be used and the manner in which the work will be prosecuted.

(e) Surfaces shall be finished uniformly with the following finish:

1. Uniformly trowel the surface to ensure that it will not be slippery.
2. Apply Small River Rock and Brick Herringbone Patterns as specified in the plans with professional grade imprinting tools when the concrete is still plastic enough to receive and hold an imprint according to the manufacturer's recommendations. A liquid release agent must be used in adequate amounts to prevent the imprinting tool from adhering to concrete.
3. Use floppy and filler tools to finish rows and fill in sections of the design where it is not convenient or possible to use rigid or border tools.
4. Periodically inspect finish for damaged areas or areas where the imprinting depth requires correcting. Border tools or Imprinting Tools may be carefully replaced and the impression deepened by tamping, or floppy and filler tools may be used. Areas where the texture is torn or damaged should be repaired by use of texturing tools. Hand chisels should be used, where needed, to deepen or create joint lines.
5. To prevent marring the texture of the pattern, tools should be periodically inspected and hardened concrete residue removed regularly.

(f) Apply Curing and Sealing agents in accordance with the manufacturer's recommendations.

(g) Control Joints shall be Saw Cut at approximate 20' intervals between perpendicular bands as indicated on the plans and details.

(h) Wherever the Special concrete meets any other surface, a 4", tooled, smooth troweled edge shall be implemented.

(i) Tolerances:

3. As with any natural material, some variation in appearance is a normal design feature of concrete, whether integrally colored or not. It is normal for the color of integrally colored concrete to lighten as it cures; allow up to 28 days for process to occur.

4. Minor variations in appearance of integrally colored concrete, which are similar to natural variations in color and appearance of uncolored concrete, are acceptable.

(k) Warranty:

The Contractor shall warrant workmanship and installation to be free of settling, cracking, discoloring, and spalling, for a period of one year from the date of acceptance of the installation. This warrant shall not apply in cases of damage caused by vehicles crossing, driving on, or overturning onto median and causing damage to the surface or finish.

Section 502.04 - Measurement and Payment is amended to include the following:

Integrally Coloring and Impressing Concrete will be measured in square yards of textured and troweled surface area and will be paid for at the Contract square yard price. This price shall include coloring and texturing concrete, sealing, and curing. The price shall also include constructing and removing mockups and warranty.

Integrally Colored and Impressed Concrete Pavement PR-2, Sign Island SI-1, Median Strip MS-1A, and Sidewalk will be measured and paid for in accordance with Sections 316, 502, and 504 of the Specifications as applicable.

Payment will be made under:

Pay Item	Pay Unit
Landscape Integrally Colored and Impressed Concrete	Square Yard

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
TEMPORARY DRAINAGE

May 28, 2019

I. DESCRIPTION

This work shall consist of temporarily placing manhole tops on permanent drainage structures at the locations designated on the plans and details in accordance with these Specifications and as directed by the Engineer. The lower section of these drainage structures used in temporary configuration will be the lower section of the corresponding permanent drainage structure.

II. MATERIAL

Temporary and permanent drainage structure components shall conform to the Road and Bridge Standards and Section 302.02 of the Specifications.

I. PROCEDURES

The plans designate certain drainage structures to have temporary manhole tops in order to allow for the storm sewer system to function during each Temporary Traffic Control phase. These drainage structures shall be modified to replace the manhole frame & cover with a drop inlet top and shall be adjusted to the finished grade. The inverts of the temporary manholes correspond to the inverts of the permanent structures. The pipes connecting these drainage structures shall be the permanent pipes.

The Contractor shall backfill the drainage structures and connecting pipes in accordance with Section 302 of the Specifications. Temporary pavement or steel plates shall be installed by the Contractor to enable use of the roadway by the traveling public while the drainage structures are in place in temporary configuration.

III. MEASUREMENT AND PAYMENT

Temporary drainage will not be measured and paid for separately. Furnishing, installing, maintaining, and removing and disposing of supplemental risers, rings, temporary manhole frames and covers and any temporary pavement and steel plates necessary to support temporary traffic control phasing and to convert the temporary drainage structures to permanent storm sewer structures shall be included in price of the permanent structure.

ORDER NO.: A72
CONTRACT ID. NO.: C0000100921C01

VIRGINIA DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATION FOR
SECTION 703 TRAFFIC SIGNALS
(Advanced Transportation Controller Hardware and Firmware)

March 13, 2019

SECTION 703 TRAFFIC SIGNALS is amended as follows:

Section 703.02(a). **Traffic Signal Controllers** is replaced with the following:

The Advanced Transportation Controller (ATC) shall be provided by the following Virginia Information Technology Agency (VITA) approved vendor:

McCain, Inc.

The Contractor shall provide the controller model 2070LX.

The ATC shall be provided as a complete functioning unit with the following modules:

CPU Module (2070-1C)
I/O Module (2070-2B)
Front Panel Display (2070-3B)
Power Supply (2070-4A)
Chassis

VITA approved ATC firmware shall be provided with each controller by the following VITA approved vendor:

Advanced Traffic Solutions, LLC

For existing traffic signals, the Contractor shall have the VITA approved vendor convert the existing timing database into a format usable by the ATC firmware.

The Contractor shall install the ATC in the ATC Cabinet – Combination Configuration, the ATC Cabinet, or existing traffic signal controller cabinet as specified in the Contract.

Section 703.02(h). **Installing Uninterruptible Power Supply** is amended to replace the first sentence of the first paragraph with the following:

The UPS system shall be installed in either the ATC Cabinet – Combination Configuration in accordance with the manufacturer's instructions.

Section 703.04 – Measurement and Payment is amended to replace the eighth paragraph with the following:

Local controller (ATC) will be measured in units of each for the type specified and will be paid for at the Contract each price. This price shall include converting the existing timing database, timing implementation, firmware, modules, manufacturer's instructions, relays, auxiliary equipment, conductor cables, grounding systems, wiring, fittings, testing, and warranty.

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
ACCESSIBLE PEDESTRIAN SIGNALS EQUIPMENT

March 29, 2018

I. DESCRIPTION

This work shall consist of furnishing and installing Accessible Pedestrian Signals (APS) equipment in accordance with this special provision and as shown on the plans or as directed by the Engineer.

II. MATERIALS

1. **Electrical items** shall conform to Section 238 of the Specifications.

2. **Galvanizing** shall conform to Section 233 of the Specifications.

3. **Miscellaneous hardware** shall be brass, bronze, stainless steel, or galvanized steel.

4. **PA-4 pedestals, poles, and foundations** shall conform to Section 700 of the Specifications.

5. **Reflective Sheeting** for the sign shall be Type III sheeting that conforms to Sections 247 of the Specifications.

III. EQUIPMENT

1. **General**

The APS equipment shall be a 2, 3, or 4 wiFre system with all necessary hardware, software, signs, and mounting hardware. APS equipment shall meet all the requirements of the MUTCD, as well as the Americans with Disabilities Act and FHWA Right-of-Way Accessibility Guidelines.

The APS equipment shall include a pushbutton station unit with a raised vibrotactile arrow, locator tone, pedestrian activation message, pedestrian activation Light-Emitting Diode (LED) pilot light, a walk interval tone, and speech messages capability.

Controller interface devices, where used, shall feature Ethernet connectivity. Both wireless and wired communication options shall be available for logging in, configuring, and monitoring the controller interface device. Wireless communication shall conform to Section 807 of the Specifications.

All APS equipment shall completely interface with all NEMA TS 1, NEMA TS 2, ATC, McCain 170 and 2070 traffic signal control equipment and conflict/malfunction monitoring equipment.

2. **Mechanical Specifications**

Pushbutton switch assemblies shall have a minimum mechanical life of 10,000,000 actuations.

Pushbuttons shall be solid-state and shall have a circular button surface at least 2 inches in diameter. The force required to activate the pushbutton shall be no greater than 5 pounds. If the pushbutton remains pressed for longer than 5 minutes, calls for the pedestrian phase shall be terminated. If, after 1 minute, the pushbutton is no longer held down, regular functioning shall resume and pedestrian actuation calls shall be served.

Pushbuttons shall have an LED pilot light indicator that illuminates once the pushbutton has been activated for a pedestrian crossing, and shall remain illuminated until the walk interval begins.

The APS pushbutton station shall be compliant with NEMA TS 2 Section 2.2.8, “Vibration Test” and NEMA TS 2 Section 2.2.9, “Shock (Impact) Test”, and the Contractor shall provide certified independent laboratory reports confirming that the APS is compliant with these tests.

3. **Electrical Specifications**

Pushbuttons, speakers, and vibratory surfaces shall operate on low voltage (not more than 36 volts DC). The controller interface device shall operate with systems providing 85 to 135 VAC, 60 Hz. All APS equipment shall contain over current protection either by fuse or circuit breaker and shall provide transient voltage surge protection.

APS pushbutton stations shall be designed to prevent electrical shock in all types of weather and APS components shall have provisions for grounding in accordance with the NEC. APS pushbutton stations shall have electrical spade connections, ring terminals, pluggable terminal blocks, faston, or barrier terminal strips on the switch. Wire and wire-nut connections will not be acceptable.

APS pushbutton stations shall be optically isolated 36 Volts AC/DC Peak, 0.1A solid state fused contact closure.

The Contractor shall provide a certified independent laboratory report confirming that the APS and the pedestrian head control unit are compliant with NEMA TS 2 Section 2.2.7, “Test Procedure: Transients, Temperature, Voltage, and Humidity”.

For APS that does not use pedestrian head control units (modules located within the corresponding pedestrian signal head), APS pushbutton stations shall be capable of operation using a 2-conductor cable connecting the APS pushbutton station to the cabinet.

4. **Environmental Specifications**

The controller interface device shall operate during and after being subjected to ambient temperature range of –29°F to +155°F, with a maximum non-condensing humidity of 95% humidity.

5. **Communication Specifications**

APS equipment shall comply with the latest approved requirements of 47 CFR 15.

If a controller interface is required for the APS to function, the controller interface shall have one Ethernet port (10/100 minimum). The controller interface device shall allow technicians to log into the controller interface device from a remote location to monitor and configure connected APS pushbutton stations. controller interface devices shall be capable of overseeing a minimum of 16 APS pushbutton station units.

6. **Physical Specifications**

Each APS pushbutton station shall have a powder coated aluminum enclosure. The pushbutton station may feature small sections of a non-aluminum material to facilitate wireless signal transmission. APS pushbutton stations shall be weather-tight and tamperproof. Enclosures shall be black, unless a different color is specified on the plans or is approved by the Engineer.

Where provided, controller interface devices shall be capable of being shelf-, DIN-rail, or rack-mountable in a standard 19” EIA rack, and shall include the necessary hardware for installation by any of these methods.

Pedestrian head control units shall be capable of being mounted within all standard existing VDOT pedestrian signal head enclosures without the need for modifying the existing enclosure.

Braille lettering shall be included if required in the plans.

Each APS pushbutton, controller interface device, and pedestrian head control unit shall feature a unique serial number.

IV. APS FUNCTIONAL REQUIREMENTS

1. Audible Indications

"Cuckoo", "chirp", or other avian sounds shall not be used.

A. Volume

The APS pushbutton station shall feature the following abilities:

- Ability to set the maximum volume of all audible tones and messages between 0 dBA and 100 dBA.
- Ability to automatically adjust the volume of all audible tones and messages to 5 A-weighted Decibels (dBA) above ambient noise level, up to a maximum volume of 100 dBA. The APS pushbutton station shall feature the ability using the software included with the unit to disable the automatic ambient noise level function.
- Ability to customize the automatic ambient noise level settings (also known as "gain").
- APS systems shall emit percussive tones and audible messages using speakers built into the APS pushbutton station.
- APS shall rely on the time reported by the controller or have an internal clock to prevent clock drift in any of the pushbutton station units for time-of-day/day-of-week scheduling. All APS pushbutton station units shall automatically return to the scheduled setting for the respective time and date after any power outage or device reset.

B. Locator Tones

Locator tones shall be percussive or beeping tones with durations of 0.15 seconds or less, and shall repeat at 1-second intervals.

C. Pedestrian Activation Message

Devices shall state a "Wait" audible activation message once immediately following a button press outside of the corresponding walk interval, unless a different message is specified on the plans.

D. Walk Interval Tones and Speech Messages

Devices shall be capable of emitting both rapid tick percussive tones and customizable audible speech messages for the walk interval.

At intersections where there are no APS stations located on the same corner less than 10 feet from each other, the walk interval tones shall be rapid tick percussive tones. The duration of the tone shall repeat 8 to 10 ticks per second. The walk interval tone shall be emitted for as long as the visual walk indication is shown, except in cases where the pedestrian signal rests in walk, when the walk interval tone should be limited to the first 7 seconds of the walk interval. Upon conclusion of the walk interval tone, the APS station shall return to emitting the locator tone.

Walk interval tones shall consist of multiple frequencies with a dominant component of 880 Hz.

At intersections where one or more corners have two APS stations located within 10 feet of each other, the walk interval speech messages shall be utilized instead of the walk interval tones at all pushbutton station units unless specified otherwise by the Engineer. Walk interval speech messages shall be announced for as long as the visual walk indication is shown, or for 7 seconds in the case of a pedestrian signal that rests in walk.

The walk interval speech message shall be programmed to be in the format “[designated street name]”, “walk sign is on to cross”, “[designated street name]”, with the appropriate street names programmed into the message, unless noted otherwise in the plans. Suffixes such as “Street” or “Avenue” shall not be used unless this information is necessary to avoid ambiguity at a particular location. If the intersection has an exclusive pedestrian phase then the speech message shall be programmed to say, “Walk sign is on for all crossings”.

E. **Pushbutton Informational Speech Message**

All APS pushbutton station equipment shall have the capability of emitting an informational speech message upon activation by pushing and holding the pushbutton for 1 second or longer. Once activated, the information message shall repeat itself until being immediately truncated by the initiation of the walk interval tone or message.

The Pushbutton Informational Speech Message shall be programmed to be in the format “Wait to cross [designated street name] at [designated street name]; Wait”, with the appropriate street names programmed into the message, unless noted otherwise in the plans. Suffixes such as “Street” or “Avenue” shall not be used unless this information is necessary to avoid ambiguity at a particular location.

2. **Vibrotactile Arrow**

APS pushbutton station units shall have a vibrating, tactile (vibrotactile) arrow on the pushbutton surface. The arrow shall vibrate only during the walk interval.

The arrow shall be raised at least 1/32 inches and shall be at least 1.5 inches in length. The arrow head shall be open at 45 degrees to the shaft and should not exceed 33% of the length of the shaft. Stroke width shall be 10 to 15 percent of the length of the arrow and shall contrast with the background.

The APS shall feature the ability to orient the arrow to the left or right in the field without requiring the use of proprietary tools, epoxy or adhesive.

3. **Signs**

Standard pedestrian crossing signs shall be installed at each location in accordance with the Plans and the MUTCD.

4. **Software**

The Contractor shall provide a software license for the APS software on an exclusive perpetual basis. The software shall be compatible with a Windows based PC. The controller interface device shall allow technicians to remotely log into the controller interface device to monitor and configure connected APS pushbutton stations at locations where the controller has Internet connectivity. Access to the controller interface device software shall be password-protected.

The software shall feature the capability to connect to the controller interface device through both wireless and wired connections. The software shall feature the capability to connect to an APS pushbutton station through a wired connection. The software shall feature the capability to upload and download APS pushbutton station and controller interface device configurations and sound files. At a minimum, the software shall feature the capability to view time-stamped log files of previous pushbutton activation history, configure volume levels by time of day and day of week, and adjust the volume above or below ambient noise levels within the full range of volumes specified herein.

5. **Extended Pushbutton Press**

APS shall feature the ability to alter the programmed pedestrian crossing interval when the pushbutton is pushed and held for 1 second or longer, when APS is used in conjunction with an Advanced Traffic Controller. Pedestrian crossing intervals upon extended pushbutton press shall be implemented only where indicated on the plans.

APS shall feature the ability to implement audible beaconing as per the MUTCD when the pushbutton is pushed and held for 1 second or longer. The Department will allow audible beaconing that requires the use of external speakers. Audible beaconing shall only be implemented only where indicated on the plans.

V. PROCEDURE

All APS recorded messages, signs, and accessible formatted information shall be submitted to the Engineer for approval prior to installation.

APS pushbutton stations shall be installed in accordance with the MUTCD and Virginia Supplement to the MUTCD, in accordance with manufacturer's installation instructions, as indicated on the plans, and as directed by the Engineer. controller interface devices shall be installed inside the traffic signal controller cabinet as shown on the Plans. Pedestrian head control units shall be installed in the corresponding pedestrian signal heads.

If Plans require the installation of a mounting extender, the Contractor shall provide a manufacturer-approved metal mounting extender that allows for the required placement of the APS pushbutton stations.

The Contractor shall install the arrow on the APS pushbutton so that it is aligned parallel to the direction of pedestrian travel on the associated crosswalk.

1. **Documentation**

Documentation provided shall be accessible via web browser, and be capable of being printed. Documentation shall provide all the information on the APS necessary to install, configure, verify the proper functioning, troubleshoot, and replace (if required) the APS. The documentation shall be in English.

2. **Testing**

   After installation, the Contractor shall verify that the locator tone automatically adjusts in response to changes in ambient noise levels. The Contractor shall confirm, using a person with normal hearing capabilities, that the locator tones are audible 6 feet and inaudible 15 feet from each pushbutton station.

VI. WARRANTY

The Contractor shall provide APS equipment having a manufacturer's warranty on furnished equipment and parts to be free from defects in fabrication, assembly, and materials for a period of at least 5 years from the date of Final Acceptance by the Engineer. The APS equipment warranty shall also include technical support for product hardware and its software. The Contractor shall transfer this warranty to the Department upon Final Acceptance.

VII. MEASUREMENT AND PAYMENT

Accessible Pedestrian System Pushbutton Stations will be measured in units of each and will be paid for at the Contract each price. This price shall include furnishing and installing APS pushbutton station units including programming of audible tones and messages, vibrotactile arrows, fittings, signs, Braille lettering, speakers, mounting hardware, LED pilot light, pedestrian head control units (including wiring between the pedestrian head control unit and APS push button station), grounding electrode conductor, grounding lug, software, testing, adjustment, and alignment. If a controller interface device is required for the APS to function, then the cost of the controller interface device shall be incidental to the cost of the APS Pushbutton Stations, including communication and electrical cabling inside the cabinet and any mounting hardware. When APS is installed at an intersection with an existing controller cabinet, the cost of reprogramming the existing controller shall be incidental to this pay item.

Mounting Extender will be measured in units of each and will be paid for at the Contract each price. This price shall include furnishing and installing the mounting extender, including all hardware.

Pedestal Pole (PA-4, 6') will be paid for in accordance with Section 700.06 of the Specifications.

PA-4 Foundation will be paid for as **Concrete Foundation** in accordance with Section 700.06 of the Specifications.

Payment will be made under:

Pay Item	Pay Unit
Accessible Pedestrian System Pushbutton Stations	Each
Mounting Extender	Each