

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

Form C-6a  
Rev. 3-22-05  
CNSP (F) 1-9-06

**COMMONWEALTH OF VIRGINIA**  
**DEPARTMENT OF TRANSPORTATION**  
**BID PROPOSAL AND CONTRACT**

ROUTE NUMBER: VARIOUS  
FHWA NUMBER: IM/STP-968-8(063)  
PROJECT NUMBER: (NFO) TS06-968-911, N501  
COUNTY: VARIOUS  
DISTRICTS: STAUNTON AND CULPEPER



DESCRIPTION: ON-CALL NORTHWEST REGION SIGNAL CONTRACT  
LOCATION: VARIOUS LOCATIONS WITHIN THE NORTHWEST REGION  
DATE BID SUBMITTED: 10:00 A.M., WEDNESDAY, NOVEMBER 17, 2010

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

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](http://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.

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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) TS06-968-911, N501

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.: G34**  
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Form C-7  
Rev. 7-2-08  
SHEET 1 of 16

**TERMS OF THE PROPOSAL\CONTRACT**  
**COMMONWEALTH OF VIRGINIA**  
**DEPARTMENT OF TRANSPORTATION**  
**SUBMITTED: 10:00 A.M., WEDNESDAY, NOVEMBER 17, 2010**

PROJECT NUMBER: (NFO) TS06-968-911, N501  
ROUTE NUMBER: VARIOUS  
FHWA NUMBER: IM/STP-968-8(063)  
DESCRIPTION: ON-CALL NORTHWEST REGION SIGNAL CONTRACT  
LOCATION: VARIOUS LOCATIONS WITHIN THE NORTHWEST REGION  
DISTRICTS: STAUNTON AND CULPEPER COUNTY: VARIOUS

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.

**DECEMBER 31, 2013**

BID TOTAL \$2,319,553.05

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.

Richardson-Wayland Electrical Co., L.L.C. BY: \_\_\_\_\_  
(Names of Individual(S), Firm(S) Or Corporation) Signature/Title

P.O. Box 12648 Roanoke, VA 24027-2648  
Street Address City State Zip Code Vendor#/Fin#

\_\_\_\_\_  
(Names of Individual(S), Firm(S) Or Corporation) BY: \_\_\_\_\_  
Signature/Title

\_\_\_\_\_  
Street Address City State Zip Code Vendor#/Fin#

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

































**ORDER NO.: G34  
CONTRACT ID. NO.: C00097026T11**

Form C-111  
Rev. 7-13-05

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

PROJECT NO: (NFO) TS06-968-911, N501

FHWA NO: IM/STP-968-8(063)

**\*\*\*INSTRUCTIONS\*\*\***

SECTION II OF THIS FORM IS TO BE USED BY THE CONTRACTOR TO SUBMIT THE NAMES OF DBE FIRMS TO BE UTILIZED ON THE PROJECT. ADDITIONAL SHEETS TO SHOW THE ALLOWABLE CREDIT PER ITEM MAY BE ATTACHED IF NECESSARY. **NOTE:** IF 100% OF AN ITEM IS NOT TO BE PERFORMED OR FURNISHED BY THE DBE, DESCRIBE THE PORTION AND PERCENTAGE TO BE PERFORMED OR FURNISHED BY THE DBE.

**SECTION I:**

DBE REQUIREMENT \_\_\_\_\_ 7%

**SECTION II:**

PERCENT ATTAINED BY BIDDER \_\_\_\_\_ %

NAME(s) AND CERTIFICATION NO. OF DBE(s) TO BE USED	TYPE OF WORK & ITEM NO(s)	PERCENT OF WORK	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

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Form C-112  
Rev. 12-12-05

**COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
CERTIFICATION OF BINDING AGREEMENT**

Project No.: (NFO) TS06-968-911, N501

FHWA NO: IM/STP-968-8(063)

It is hereby certified by the below signed Contractors that there exists a written quote acceptable to both parties 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. 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 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.

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).

DBE/WBE Contractor \_\_\_\_\_

By: \_\_\_\_\_  
Signature Title  
Date: \_\_\_\_\_

Prime Contractor: \_\_\_\_\_

By: \_\_\_\_\_  
Signature Title  
Date: \_\_\_\_\_

**Note:** 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.

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**(c100ai02-0609) GENERAL PROJECT REQUIREMENTS, SUPPLEMENTAL SPECIFICATIONS (SSs), SPECIAL PROVISIONS (SPs) AND SPECIAL PROVISION COPIED NOTES (SPCNs)**

This project shall be constructed in accordance with: the plans; the *Virginia Department of Transportation Road and Bridge Specifications*, dated 2007; and the *Virginia Department of Transportation Road and Bridge Standards*, dated 2008; the *Virginia Work Area Protection Manual*, dated May 1, 2005; the 2003 edition of the *MUTCD*; and Supplemental Specifications, Special Provisions and Special Provision Copied Notes in this contract.

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

The information enclosed in parenthesis "(" at the 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 shall 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 shall 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.

3-5-09c (SPCN)

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

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

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

12-19-08 (SPCN)

**ORDER NO.: G34**  
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(c106fp0-0609) **SECTION 106.03(b) SOURCES FURNISHED BY THE CONTRACTOR** of the Specifications is replaced by the following:

- (b) **Sources Furnished by the Contractor:** The use of material from sources furnished by the Contractor will not be permitted until approved by the Engineer and written authority is issued for the use thereof.

The Contractor shall acquire the necessary rights to take material from these sources and shall pay all costs related thereto, including costs which may result from an increase in length of haul. The Department will review and evaluate the material and reserves the right to reject any material from a previously approved source which fails visual examination or test.

1-14-08 (SPCN)

**SECTION 103.05 REQUIREMENTS OF CONTRACT BOND** of the Specifications is amended as follows:

**SECTION 103.05(a) REQUIREMENTS OF CONTRACT BOND** of the Specifications is replaced by the following:

a performance bond for \$250,000.00, conditioned upon the faithful performance of the Contract in strict conformity with the plans, specifications and conditions of the Contract, and

**SECTION 103.05(b) REQUIREMENTS OF CONTRACT BOND** of the Specifications is replaced by the following:

a payment bond for \$250,000.00, conditioned upon the prompt payment for all labor, materials, public utility services and rental of equipment used in the prosecution of the work for the Contract.

12-6-06 (SPCN)

**SECTION 512.04 MEASUREMENT AND PAYMENT – Construction Signs** is replaced with the following:

The Contractor shall furnish all work zone signs. The cost thereof shall be included in the price bid for other appropriate items. All signs will be in accordance with Section 512 of the Road and Bridge Specifications, Virginia Work Area Protection Manual and MUTCD.

3-15-04(SPCN)

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

**SECTION 512 MAINTAINING TRAFFIC (Non-Schedules) (Lump Sum)**

**Dated June 25, 2010C Non-Schedules** - is amended to add the following:

**Eradication of existing pavement markings** will be measured in linear feet of a 6-inch width or portion thereof as specified herein. Widths that exceed a 6-inch increment by more than 1/2 inch will be measured as the next 6-inch increment. Measurement and payment for eradication of existing pavement markings specified herein shall be limited to linear pavement line markings. Eradication of existing pavement markings will be paid for at the contract unit price per linear foot. This price shall include removing linear pavement line markings and disposing of residue.

**Eradication of existing nonlinear pavement markings** will be measured in square feet based on a theoretical box defined by the outermost limits of the nonlinear pavement marking. Nonlinear pavement markings shall include but not be limited to stop bars, arrows, images and messages. Eradication of existing nonlinear pavement markings will be paid for at the contract unit price per square foot. This price shall include removing nonlinear pavement markings and disposing of residue.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Eradication of existing pavement marking	Linear foot
Eradication of existing nonlinear pavement marking	Square foot

9-9-10(SPCN)

**SECTION 700 – GENERAL** of the Specifications is amended as follows:

**SECTION 700.04(C) CONCRETE FOUNDATIONS** is amended to include the following:

Vented rodent barrier – Prior to erecting tubular structures and poles on concrete foundations formed with conduit sweeps, a double lapped ring barrier of standard commercial grade 27 gauge hot dipped galvanized 1/8 inch woven wire mesh shall be placed inside the foundations bolt circle.

The height of the wire mesh ring barrier shall be from the concrete foundation to the top of the leveling nuts and washers plus 1/4 inch. The Contractor shall take all necessary steps to assure the wire mesh ring will remain in place to eliminate any access through the base plate opening of the tubular structure or pole when erected and plumbed. The Contractor shall not weld or drill to the base plate of the pole. Optional vented rodent barrier designs and materials may be used when approved by the Engineer and at no additional cost to the Department.

**Section 700.05 Measurement and Payment for Concrete foundations** is amended to add “vented rodent barrier” to the third sentence.

4-2-04(SPCN)

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

**SECTION 700 – GENERAL** of the specifications is amended as follows:

**Section 700.04(b) Excavation for Foundations** is amended to include the following:

When foundations are placed in slopes, the slopes beside and behind the foundations shall be graded as directed by the Engineer. The Contractor shall include the cost of this work in the price bid for the foundations.

**SECTION 700.04(J) HYDRAULIC CEMENT CONCRETE SIDEWALK** is amended to include the following:

Payment for removal of the existing sidewalk to existing joint lines and installation of the proposed sidewalk will be made under Cement Concrete Sidewalk 4 inch.

**Section 700.04 Procedures** is amended to include the following:

- (k) Asphalt concrete pavement, hydraulic cement concrete pavement, and asphalt surface treatment when designated on the plans or authorized by the Engineer to be open cut for installation of conduit shall be restored in accordance with Special Provision titled "Restoring Existing Pavement". If open cutting is approved for the convenience of the Contractor, no payment for restoring existing pavement will be made.

07-21-06(SPCN)

**SECTION 703.02(d) 3. INTERIOR** is amended to include the following:

The signal bus shall be connected to the incoming AC+ through a signal bus with a solid state relay equal to Payne Engineering Company's #11DZ-1-30-VDOT relay.  
6-02-04 (SPCN)

**SECTION 703.02(G) 3. INDUCTIVE LOOP DETECTORS** is amended as follows:

The first paragraph is replaced with the following:

- 3. Inductive loop detectors** shall conform to the requirements of the performance characteristics required by NEMA TS-1 or NEMA TS-2 as applicable.

The third paragraph first sentence is replaced with the following:

Loop detectors amplifiers TS-1 shall be a single-channel, shelf-mounted, relay-output type with indicator lights on the front panel and delay and extension detection features. Loop detectors amplifiers TS-2 shall be two channel, rack-mounted detectors as applicable and shall as a minimum meet the requirements of NEMA TS-2 Section 6.5 in its entirety.

6-24-04 (SPCN)

**LIMITATION OF OPERATIONS** - The Contractor is advised that work may be required to be performed only between the night time hours of 8:00 PM and 5:00 AM. The Engineer will notify the Contractor of this limitation of operations at the time the work is released to the Contractor. It is anticipated that nighttime work will not constitute more than 15 percent of the work locations released to the Contractor. No additional compensation for working the night time hours as specified herein will be awarded the Contractor and the cost for such work shall be included in the price bid for the appropriate respective items of work.

01-10-02 (SPCN)

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**SIGNAL POLE DETAILS (STRAIN AND COMBINATION LUMINAIRE STRAIN POLE)** - Standard MP-2 of the 2008 Road and Bridge Standards shall be followed for determining the allowable amount of sag for a Strain and Combination Signal Pole.

1-11-02 (SPCN)

**CONCRETE FOUNDATION SIGNAL POLES PF8:** Prior to pouring concrete, the Contractor shall inspect the foundation excavation with the Project Engineer for tolerance and to ascertain if any honeycombing, voids, sloughing of earth sides has occurred. The character of foundation material shall be determined. The Engineer will determine if additional concrete will be required and the amount. Additional concrete required in excess of the plan quantity will be paid for as miscellaneous concrete at the price of \$200.00 per cubic yard.

03-18-09 (SPCN)

**WIRING AND RIGGING DETAILS** - Standards WD-1, WD-2 of the 2008 Road and Bridge Standards is amended to include the following:

Compression dead-end clamps shall be designed for the size of the span wire and shall meet or exceed the strength of the span wire. Clamps shall be fabricated from corrosion resistant materials or shall be galvanized. Clamps shall have a release slot for holding the jaws back for retensioning and removal of the span wire. Clamps shall be internally coated with inhibitor oils to prevent corrosion and to allow for the free movement of the jaws.

9-10-10 (SPCN)

**TETHER WIRE DETAILS** - Standard TA-1 of the 2008 Road and Bridge Standards is amended to include the following:

Compression dead-end clamps shall be designed for the size of the tether wire and shall meet or exceed the strength of the tether wire. Clamps shall be fabricated from corrosion resistant materials or shall be galvanized. Clamps shall have a release slot for holding the jaws back for retensioning and removal of the tether wire. Clamps shall be internally coated with inhibitor oils to prevent corrosion and to allow for the free movement of the jaws.

9-10-10 (SPCN)

**ROCK EXCAVATION** - This work consists of excavation of solid rock for trenches and concrete foundations as approved by the Engineer. Rock excavation shall be in accordance with Section 303 of the Specifications. Rock excavation will not be permitted if rerouting of the trench excavation is possible.

Rock excavation will be measured in cubic yards in accordance with Section 303.06 of the Specifications for Regular Excavation and will be paid for at the contract unit price per cubic yard. This price shall include excavation and disposal of material.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Rock Excavation	Cubic Yard

5-19-92 (SPCN)

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

**CONTRACT RENEWAL OR EXTENSION** - The Department may extend the Contract in order for the Contractor to complete scheduled work or work underway. In addition the Department reserves the right to extend the Contract for intervals of one year (not to exceed two intervals) providing the Department and Contractor are in agreement and the following conditions are met:

- 1.) the Contractor's bonding agency is in agreement with the Contract Renewal
- 2.) no new bid items are added and,
- 3.) there are no increases in the original contract unit bid prices.

3-7-07(SPCN)

**EMERGENCY MOBILIZATION** - When the Contractor is required to respond to an emergency situation the Contractor shall arrive at the work site within 2 hours from the time of notification with equipment, vehicles, work crew(s) and materials to commence the required work immediately.

Once the Contractor is notified to respond to an emergency traffic signal repair situation, the Contractor shall adhere to the following:

1. Call the Department's designated contact and report the time of arrival at traffic signal location. Time will reflect complete mobilization of crew to the designated site.
2. Commence diagnostic testing of the traffic signal.
3. Report to the Department's designated contact the results and recommendations for traffic signal repair within one hour of arrival.
4. Proceed with repairs or temporary repairs as directed for Department's designated contact.

The Contractor at the time of notification may request additional time to respond due to inclement weather, or circumstances beyond the Contractors control. Approval of additional response time will be decided by the Engineer on a case-by-case basis.

In the event the Contractor is notified to mobilize to a designated site and the Contractor then proceeds and arrives at the site fully prepared to work within the timeframe noted as described herein and the Department determines once he has arrived at the site his services are no longer needed, he shall be compensated in accordance with the pay item.

**Emergency Mobilization** will be measured and paid for in units of each per response. This price shall include equipment, mobilization of work crew and equipment, performing diagnostic testing, developing recommendations for traffic signal repair and delivery of materials to perform the work.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Emergency Mobilization	Each

9-17-10 SPCN

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

**DISINCENTIVE** - The Contractor will be assessed a disincentive of \$100 per hour, or part of an hour, beyond the time requirement for response time for emergency mobilization, up to a maximum of \$1000 per occurrence. Disincentives for the response will be assessed concurrently beyond two hours if the Contractor's personnel have not arrived at the location. In the event the Contractor cannot be reached by the phone or does not return the call to the Department within thirty minutes after being paged, the Department reserves the right to make such repairs in accordance with Section 104. This shall in no way relieve the Contractor's responsibility for maintaining and completing the work. If the Department makes repairs, the maximum amount of disincentive will be assessed.

7-8-10 SPCN

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

SF001AF-0708

Reissued July 2008

**PREDETERMINED MINIMUM WAGE RATES**

GENERAL DECISION: VA20100103 06/04/2010 VA103  
Date: June 4, 2010  
General Decision Number: VA20100103 06/04/2010  
State: Virginia  
Construction Type: Highway

Counties: Alleghany, Appomattox, Augusta, Bath, Bland, Buchanan, Buckingham, Buena Vista\*, Carroll, Charlotte, Clifton Forge\*, Covington\*, Craig, Cumberland, Dickenson, Floyd, Franklin, Frederick, Galax\*, Giles, Grayson, Halifax, Harrisonburg\*, Henry, Highland, Lee, Lexington\*, Martinsville\*, Montgomery, Nelson, Norton\*, Page, Patrick, Prince Edward, Pulaski, Rockbridge, Rockingham, Russell, Salem\*, Shenandoah, Smyth, South Boston\*, Tazewell, Waynesboro\*, Winchester\*, Wise and Wythe Counties in Virginia.

\* INDEPENDENT CITIES

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

Modification Number	Publication Date
0	06/04/2010

SUVA2010-001 03/26/2010

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 18.31	
ELECTRICIAN		
Electrician.....	\$ 18.00	
Traffic Signal Installer....	\$ 14.00	
FORM SETTER.....	\$ 13.00	
IRONWORKER, REINFORCING.....	\$ 22.71	
IRONWORKER, STRUCTURAL.....	\$ 23.00	
LABORER		
Asphalt Raker.....	\$ 12.66	
Blaster.....	\$ 18.40	
Common or General Laborer...	\$ 11.56	
Fence Erector.....	\$ 10.00	
Flagger.....	\$ 10.97	
Guardrail Erector.....	\$ 14.73	
Pipe Layer.....	\$ 14.67	
Power Tool.....	\$ 12.73	
Sign Erector.....	\$ 12.25	
Skilled Laborer.....	\$ 13.03	
Landscape Worker.....	\$ 15.04	
PAINTER.....	\$ 26.00	
Pavement Marking Machine		
Operator.....	\$ 15.57	
Pavement Marking Truck		
Operator.....	\$ 16.03	

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

POWER EQUIPMENT OPERATOR:

Air Compressor.....	\$ 11.00
Asphalt Distributor.....	\$ 10.76
Asphalt Paver.....	\$ 14.27
Backhoe.....	\$ 15.91
Bulldozer, Utility.....	\$ 15.00
Bulldozer.....	\$ 16.10
Concrete Finish Machine	
Screed, Bridge.....	\$ 15.75
Concrete Finish Machine.....	\$ 18.35
Concrete Paving Machine.....	\$ 12.00
Crane, Derrick, Dragline	
(1 cm & under).....	\$ 13.75
Crane, Derrick, Dragline	
(over 1 cm).....	\$ 20.88
Drill.....	\$ 20.00
Excavator, Gradall.....	\$ 16.64
Front End Loader (2 cm &	
under).....	\$ 15.16
Front End Loader (over 2	
cm).....	\$ 15.87
Hydro Seeder.....	\$ 11.50
Mechanic.....	\$ 16.79
Mobile Mixer.....	\$ 14.40
Motor Grader, Fine Grade....	\$ 17.42
Motor Grader, Rough Grade...\$	18.94
Oiler, Greaser.....	\$ 13.07
Pavement Planing Groundman..\$	11.69
Pavement Planing.....	\$ 14.99
Pile Driver.....	\$ 22.44
Roller, Finish.....	\$ 13.75
Roller, Rough.....	\$ 13.11
Scraper Pan.....	\$ 11.92
Shot Blast Machine.....	\$ 14.50
Stone-Spreader.....	\$ 16.35
Tractor, Crawlers.....	\$ 20.30
Trenching Machine.....	\$ 12.00
Vacuum Machine.....	\$ 17.54

TRUCK DRIVER

Fuel & Service Lubricant	
Service Truck.....	\$ 12.50
Truck Driver, Heavy Duty	
(7 c.y. & under).....	\$ 13.60
Truck Driver, Heavy Duty	
(over 7 c.y.).....	\$ 14.66
Truck Driver, Multi-Rear	
Axle.....	\$ 14.40
Truck Driver, Single Rear	
Axle.....	\$ 13.53
Truck Driver, Tandem Rear	
Axle.....	\$ 12.77
Truck Driver, Utility.....	\$ 12.00

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

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**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

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 (29 CFR 5.5(a)(1)(ii)).

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In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

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WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

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

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

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

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

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

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

END OF GENERAL DECISION

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

SF001AF-0708

Reissued July 2008

**PREDETERMINED MINIMUM WAGE RATES**

GENERAL DECISION: VA20100104 06/04/2010 VA104

Date: June 4, 2010  
General Decision Number: VA20100104 06/04/2010  
State: Virginia  
Construction Type: Highway

Counties: Accomack, Amelia, Brunswick, Caroline, Emporia\*, Essex, Greensville, King And Queen, King William, Lancaster, Louisa, Lunenburg, Madison, Mecklenburg, Middlesex, Northampton, Northumberland, Nottoway, Orange, Poquoson\*, Rappahannock, Richmond, Richmond\*, Southampton, Surry, Sussex, Westmoreland and Williamsburg\* Counties in Virginia.

\* INDEPENDENT CITIES

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

Modification Number	Publication Date
0	06/04/2010

SUVA2010-002 03/26/2010

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 13.00	
FORM SETTER.....	\$ 10.39	
IRONWORKER, REINFORCING.....	\$ 18.00	
LABORER		
Asphalt Raker.....	\$ 15.85	
Common or General Laborer...	\$ 11.39	
Flagger.....	\$ 10.00	
Guardrail Erector.....	\$ 18.50	
Pipe Layer.....	\$ 11.05	
Power Tool.....	\$ 11.00	
Skilled Laborer.....	\$ 12.74	
Landscape Worker.....	\$ 9.00	
PAINTER.....	\$ 17.50	
Pavement Marking Machine Operator.....	\$ 10.00	
Pavement Marking Truck Operator.....	\$ 11.00	
POWER EQUIPMENT OPERATOR:		
Asphalt Distributor.....	\$ 16.22	
Asphalt Paver.....	\$ 14.83	
Backhoe.....	\$ 13.38	
Bulldozer, Utility.....	\$ 13.00	
Bulldozer.....	\$ 15.50	
Concrete Pump.....	\$ 14.65	
Concrete Saw.....	\$ 25.00	
Crane, Derrick, Dragline (over 1 cm).....	\$ 17.00	

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

Crane, Derrick, Dragline (under 1 cm).....	\$ 15.00
Drill.....	\$ 24.00
Excavator, Gradall.....	\$ 15.00
Front End Loader.....	\$ 11.50
Mechanic.....	\$ 13.15
Motor Grader, Fine Grade....	\$ 18.90
Motor Grader, Rough Grade...\$	18.25
Pavement Planing Groundman..\$	12.00
Pavement Planing.....	\$ 15.44
Roller (Rough).....	\$ 15.12
Roller, Finish.....	\$ 15.97
Scraper Pan.....	\$ 14.00
Shot Blast Machine.....	\$ 12.50
Stone-Spreader.....	\$ 12.80
Subgrade Machine.....	\$ 14.30
Tractor, Crawlers.....	\$ 12.50
Vacuum Machine.....	\$ 15.05
TRUCK DRIVER	
Fuel & Lubricant Service	
Truck.....	\$ 17.50
Truck Driver Single Rear	
Axle.....	\$ 17.00
Truck Driver, Heavy Duty	
(over 7 c.y.).....	\$ 13.92
Truck Driver, Heavy Duty	
(under 7 c.y.).....	\$ 10.00
Truck Driver, Multi-Rear	
Axle.....	\$ 15.39
Truck Driver, Tandem Rear	
Axle.....	\$ 14.39
Truck, Utility.....	\$ 12.36

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

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

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In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.  
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**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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U.S. Department of Labor  
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END OF GENERAL DECISION

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

SF001AF-0708

Reissued July 2008

**PREDETERMINED MINIMUM WAGE RATES**

GENERAL DECISION: VA20100107 06/04/2010 VA107

Date: June 4, 2010  
General Decision Number: VA20100107 06/04/2010  
State: Virginia  
Construction Type: Highway

Counties: Albemarle, Charlottesville\*, Fluvanna, Greene and Staunton\* Counties in Virginia.

\* INDEPENDENT CITIES

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

Modification Number	Publication Date
0	06/04/2010
SUVA2010-005	03/26/2010

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 15.74	
IRONWORKER, REINFORCING.....	\$ 18.00	
LABORER		
Asphalt Raker.....	\$ 12.62	
Blaster.....	\$ 17.00	
Common or General Laborer...	\$ 11.74	
Fence Erector.....	\$ 12.00	
Flagger.....	\$ 13.64	
Guardrail Erector.....	\$ 14.00	
Pipe Layer.....	\$ 13.00	
Power Tool.....	\$ 11.00	
Skilled Laborer.....	\$ 14.53	
Landscape Worker.....	\$ 10.00	
Pavement Marking Machine		
Operator.....	\$ 15.89	
Pavement Marking Truck		
Operator.....	\$ 14.53	
POWER EQUIPMENT OPERATOR:		
Asphalt Distributor.....	\$ 14.76	
Asphalt Paver.....	\$ 14.16	
Backhoe.....	\$ 18.50	
Bulldozer.....	\$ 15.10	
Concrete Finish Machine		
Screed, Bridge.....	\$ 16.00	
Concrete Finish Machine.....	\$ 15.80	
Concrete Paving Machine.....	\$ 13.88	
Crane, Derrick, Dragline		
(over 1 cm).....	\$ 22.49	
Drill.....	\$ 12.00	
Excavator, Gradall.....	\$ 18.61	
Front End Loader (over 2		
cm).....	\$ 16.83	

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

Hydro Seeder.....	\$ 21.25
Mechanic.....	\$ 21.01
Motor Grader, Fine Grade....	\$ 17.00
Pavement Planing Groundman..	\$ 10.75
Pavement Planing.....	\$ 19.00
Pipe Boring/Jacking Machine..	\$ 13.70
Roller, Finish.....	\$ 13.02
Roller, Rough.....	\$ 13.98
Slurry Seal Paver Machine...	\$ 17.64
Stone-Spreader.....	\$ 12.75
Tractor, Crawlers.....	\$ 10.00
Vacuum Machine.....	\$ 9.25
TRUCK DRIVER	
Slurry Seal Paver Truck.....	\$ 9.75
Truck Driver, Heavy Duty (over 7 c.y.).....	\$ 17.20
Truck Driver, Heavy Duty (under 7 c.y.).....	\$ 12.93
Truck Driver, Multi-Rear Axle.....	\$ 17.10
Truck Driver, Single Rear Axle.....	\$ 13.00
Truck Driver, Tandem Rear Axle.....	\$ 14.20

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

=====  
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-----  
WAGE DETERMINATION APPEALS PROCESS

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

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

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

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

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

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END OF GENERAL DECISION



**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

Boom/Auger.....	\$ 18.50
Bulldozer, Utility.....	\$ 17.00
Bulldozer.....	\$ 18.42
Concrete Finisher Machine...	\$ 18.35
Concrete Saw.....	\$ 15.00
Crane, Derrick, Dragline (1 cm & under).....	\$ 20.00
Crane, Derrick, Dragline (over 1 cm).....	\$ 22.78
Crusher Tender.....	\$ 22.99
Drill.....	\$ 23.81
Excavator, Gradall.....	\$ 24.54
Front End Loader (2 cm & under).....	\$ 18.00
Front End Loader (over 2 cm).....	\$ 18.23
Hydro Seeder.....	\$ 21.25
Mechanic.....	\$ 22.16
Mobile Mixer.....	\$ 17.00
Motor Grader, Fine Grade....	\$ 27.25
Motor Grader, Rough Grade...	\$ 17.00
Pavement Planing Groundman..	\$ 15.03
Pavement Planing.....	\$ 16.81
Pile Driver.....	\$ 16.00
Roller, Finish.....	\$ 17.50
Roller, Rough.....	\$ 17.36
Slip-Form Paver.....	\$ 21.00
Slurry Seal Paver Machine...	\$ 12.00
Stone-Spreader.....	\$ 16.23
Tractor, Crawlers.....	\$ 17.31
Trenching Machine.....	\$ 29.37
Vacuum Machine.....	\$ 16.64
<b>TRUCK DRIVER</b>	
Fuel & Lubricant Service Truck.....	\$ 18.22
Truck Driver, Heavy Duty (7 c.y. & under).....	\$ 17.75
Truck Driver, Heavy Duty (over 7 c.y.).....	\$ 18.69
Truck Driver, Multi-Rear Axle.....	\$ 18.00
Truck Driver, Single Rear Axle.....	\$ 18.29
Truck Driver, Tandem Rear Axle.....	\$ 17.67
Truck, Utility.....	\$ 11.80

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

=====

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**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

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WAGE DETERMINATION APPEALS PROCESS

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**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

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Washington, DC 20210

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END OF GENERAL DECISION

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

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

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SF010CF-0109

**FHWA 1273, MEMORANDUM AND CFR CHANGE**

January 19, 2009

**REQUIRED CONTRACT PROVISIONS, FEDERAL-AID CONSTRUCTION CONTRACTS (FHWA 1273)** shall apply to this contract as well as the following:

- **FHWA memorandum with the subject titled “THE DISCONTINUANCE OF THE FHWA-45, FHWA-47 & FHWA-810”**. In accordance with this memorandum the Contractor shall be governed by the following:

The submission of Form C-50 (FHWA 47) which is used to fulfill the reporting requirements of Section VI, Record of Materials, Supplies, and Labor of **FHWA 1273—Required Contract Provisions Federal-Aid Construction Contracts** is no longer required on Federal Aid Construction Contracts. Only that part of Section VI of **FHWA 1273** is thus eliminated. All the other parts remain in effect.

- **CFR (Code of Federal Regulations) change regarding Employee Social Security Numbers and Addresses on Payrolls**. In accordance with the US Department of Labor regulations change in 29 CFR Parts 3 and 5 the Contractor shall be governed by the following:

Section V, Paragraph 2b of **FHWA 1273—Required Contract Provisions Federal-Aid Construction Contracts** is replaced with the following:

The payroll records shall contain the name, and the last four digits of the social security number of each such employee, his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof 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.

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FHWA-1273 Electronic version -- March 10, 1994

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

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ATTACHMENTS

A. Employment Preference for Appalachian Contracts (included in Appalachian contracts only)

**I. GENERAL**

1. 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 superintendent and to all work performed on the contract by piecework, station work, or by subcontract.
2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.
3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.
4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:  
  
Section I, paragraph 2;  
Section IV, paragraphs 1, 2, 3, 4, and 7;  
Section V, paragraphs 1 and 2a through 2g.
5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 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 DOL, or the contractor's employees or their representatives.
6. **Selection of Labor:** During the performance of this contract, the contractor shall not:
  - a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or
  - b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

**II. NONDISCRIMINATION**

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

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 and 41 CFR 60) 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 Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American 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 State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

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b. The contractor will accept as his 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 SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO 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 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 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 minority group employees.
  - 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 minority groups in the area from which the project work force would normally be derived.
  - a. 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 minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

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- b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)
  - c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group 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 his 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 his avenues of appeal.
6. **Training and Promotion:**
- a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.
  - 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. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.
  - 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 minority group and women employees and will encourage eligible employees to apply for such training and promotion.

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7. **Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. 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 best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
  - b. The contractor will use best 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 SHA 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 minority and women 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 minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) 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 SHA.
8. **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.
- a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.
  - b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.
  - c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

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9. **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 completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.
- a. The records kept by the contractor shall document the following:
- (1) The number 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;
  - (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and
  - (4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.
- b. The contractors will submit an annual report to the SHA 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. If on-the job training is being required by special provision, the contractor will be required to collect and report training data.

**III. NONSEGREGATED FACILITIES**

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

- a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.
- b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).
- c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

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**IV. PAYMENT OF PREDETERMINED MINIMUM WAGE**

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

**1. General:**

- a. All mechanics and laborers 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 (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) 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. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, 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 paragraphs 4 and 5 of this Section IV.
- b. 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.
- c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

**2. Classification:**

- a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.
- b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:
  - (1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;
  - (2) the additional classification is utilized in the area by the construction industry;
  - (3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

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- (4) with respect to helpers, when such a classification prevails in the area in which the work is performed.
  - c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification 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 DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour 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.
  - d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional 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. Said 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
  - e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.
- 3. Payment of Fringe Benefits:**
- a. 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 or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.
  - b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a 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.
- 4. Apprentices and Trainees (Programs of U.S. DOL) and Helpers:**
- a. Apprentices:
    - (1) 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 DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/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 Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.
    - (2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the

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entire work force under the registered program. Any employee 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 listed in 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 or subcontractor 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-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

- (3) 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 journeyman-level 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 for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.
  - (4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.
- b. Trainees:
- (1) 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 DOL, Employment and Training Administration.
  - (2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. 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.

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- (3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level 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-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.
- (4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor 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. **Helpers:**

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. **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.

6. **Withholding:**

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor 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, as 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 SHA contracting officer 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.

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**7. Overtime Requirements:**

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

**8. Violation:**

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her 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, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

**9. Withholding for Unpaid Wages and Liquidated Damages:**

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies 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 8 above.

**V. STATEMENTS AND PAYROLLS**

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

**1. Compliance with Copeland Regulations (29 CFR 3):**

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

**2. Payrolls and Payroll Records:**

a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.

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- b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof 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. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found 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 and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.
- c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.
- d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
  - (1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;
  - (2) that such 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 the Regulations, 29 CFR 3;
  - (3) that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- e. 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 2d of this Section V.
- f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

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- g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, 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 SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions 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.

**VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR**

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:
  - a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.
  - b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.
  - c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.
2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

**VII. SUBLETTING OR ASSIGNING THE CONTRACT**

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 State. 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).
  - a. "Its own organization" shall be construed to include only workers employed and paid directly 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, assignee, or agent of the prime contractor.
  - 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 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 VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

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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 SHA 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 SHA 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 SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

**VIII. SAFETY: ACCIDENT PREVENTION**

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 SHA 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. 333).
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. 333).

**IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

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, the following notice 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: **NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS.**

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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 not more than \$10,000 or imprisoned not more than 5 years or both."*

**X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more.)

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

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.
2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.
3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.
4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

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**XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

**1. Instructions for Certification - Primary Covered Transactions:**

(Applicable to all Federal-aid contracts - 49 CFR 29)

- a. By signing and submitting this proposal, the prospective primary 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 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 primary 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 department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
- d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary 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," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.
- f. The prospective primary 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 primary 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 Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- 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 may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

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- i. 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.
- 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.

\* \* \* \* \*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions**

- 1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
  - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
  - b. Have not within a 3-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;
  - c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and
  - d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- 2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

**2. Instructions for Certification - Lower Tier Covered Transactions:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

- 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.

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- d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
- 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.
- 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 may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.
- 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 Covered Transactions:**

- 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 participation in this transaction 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.

\* \* \* \* \*

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**XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

(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 his or her bid or proposal that he or she 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.
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**FHWA MEMORANDUM**



U.S. Department of  
Transportation  
**Federal Highway  
Administration**

**MEMORANDUM**

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**Subject: ACTION:** The Discontinuance of the FHWA-45, FHWA-47 & FHWA-810  
**Date:** May 22, 2007

**From:** /s/ Original signed by  
Dwight Horne,  
Director Office of Program Administration  
**In Reply** HIPA-10  
**Refer to:**

**To:** Directors of Field Services  
Division Administrators  
Federal Lands Administrator

Effective immediately, Divisions and/or our State Transportation Agency (STA) partners will no longer be required to submit data to HIPA-10 that is collected as it relates to:

The FHWA-45, Bid Price Data<sup>1</sup>,

The FHWA-47, Statement of Materials and Labor Used by Contractors on Highway Construction Involving Federal Funds<sup>2</sup>, and

The FHWA-810, Bid Tabulation Data<sup>3</sup>

For several years, STAs have commented that the reports generated from the data collection efforts were of little utility and that there were statistical limitations, statistical significance, and accuracy issues with the data which were felt could result in misleading information. There was also a noted reporting burden on States and contractors. The suggestions have often been to eliminate the reporting requirements all together.

In 2003, the GAO conducted a review of the States' highway construction costs. As part of its review, the GAO reviewed FHWA's cost data collection requirements. In its discussions, the GAO also identified similar issues and concerns with the data series as discussed above. In a December 2003 report GAO made recommendations to FHWA to review the usefulness and accuracy and/or under reporting of the data collected.

As a result, FHWA has determined that it is appropriate to discontinue the reporting requirements for the FHWA 45, 47 and 810 as collection of this data for needed reports such as the "Highway Statistics" publication can be collected through other means. The main reasons for this decision are the strong disinterest in the data collection activities and comments provided to us by our STA partners suggesting that we are not collecting the data extensively enough to be of utility. We will also be going through an abridged regulatory update as appropriate to reflect this action.

Please contact Bob Wright, at 202-366-4630, to answer any questions and/or for additional information on this matter.

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The FHWA 45, Bid Price Data, was collected on NHS projects over \$500,000. The FHWA 45 served as a means to compute the highway construction bid price index, which is published in the document "Price Trends for Federal-aid Highway Construction. The data was used in our "Highway Statistics" publication and by other outside sources, including its use by congressional committees in their deliberations on pending new highway legislation.

The FHWA 47, Statement of Materials and Labor Used by Contractors on Highway Construction Involving Federal Funds, was collected on all NHS projects over \$1,000,000. The FHWA 47 served as a means to collect data related to the quantities of materials, supplies and labor used for various types of highway construction. The data reported on this form was used primarily to compute usage factors for these various materials, supplies, and labor. These factors were used to determine the economic impacts of cuts or increases in the cost of Federal-aid highway construction.

FHWA 810, Bid Tabulation Data was collected on all NHS projects. The needs for the FHWA 810 have been to compute national summaries on the largest contract awards and contract size statistics. The data was also used to produce state-by-state summaries on contracts awards, number of bids and average number of bids.

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SF030AF-0708

Reissued July 2008

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 working 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);

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

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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.

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

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

**ATTACHMENT A**

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

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6760 Richmond, VA .....	24.9
VA Charles City; VA Chesterfield; VA Goochland, VA Hanover; VA Henrico; VA New Kent; VA Powhatan; VA Richmond.	
Non-SMSA Counties .....	27.9
VA Albemarle; VA Amelia; VA Brunswick; VA Buckingham, VA Caroline; VA Charlotte; VA Cumberland; VA Essex; VA Fluvanna; VA Greene; VA Greensville; VA Halifax; VA King and Queen; VA King William; VA Lancaster; VA Louisa; VA Lunenburg; VA Madison; VA Mecklenburg; VA Northumberland; VA Nottoway; VA Orange; VA Prince Edward; VA Richmond VA Sussex; VA Charlottesville; VA Emporia; VA South Boston	
023 Norfolk - Virginia Beach - Newport News VA:	
SMSA Counties:	
5680 Newport News- Hampton, VA .....	27.1
VA Gloucester; VA James City; VA York; VA Hampton; VA Newport News; VA Williamsburg.	
5720 Norfolk - Virginia Beach - Portsmouth, VA - NC .....	26.6
NC Currituck; VA Chesapeake; VA Norfolk; VA Portsmouth; VA Suffolk; VA Virginia Beach.	
Non-SMSA Counties .....	29.7
NC Bertie; NC Camden; NC Chowan; NC Gates; NC Hertford; NC Pasquotank; NC Perquimans; VA Isle of Wight; VA Matthews; VA Middlesex; VA Southampton; VA Surry; VA Franklin.	
Washington, DC:	
020 Washington, DC.	
SMSA Counties:	
8840 Washington, DC - MD - VA .....	28.0
DC District of Columbia; MD Charles; MD Montgomery MD Prince Georges; VA Arlington; VA Fairfax; VA Loudoun; VA Prince William VA Alexandria; VA Fairfax City; VA Falls Church.	
Non- SMSA Counties .....	25.2
MD Calvert; MD Frederick; MD St. Marys; MD Washington; VA Clarke; VA Culpeper; VA Fauquier; VA Frederick; VA King George; VA Page; VA Rappahannock; VA Shenandoah; VA Spotsylvania; VA Stafford; VA Warren; VA Westmoreland; VA Fredericksburg; VA Winchester WV Berkeley; WV Grant; WV Hampshire; WV Hardy; WV Jefferson; WV Morgan.	
Tennessee:	
052 Johnson City - Kingsport - Bristol, TN - VA	
SMSA Counties:	
3630 Johnson City - Kingsport -Bristol, TN-VA .....	2.6
TN Carter; TN Hawkins; TN Sullivan; TN Washington; VA Scott: VA Washington; VA Bristol.	
Non-SMSA Counties .....	3.2
TN Greene; TN Johnson; VA Buchanan; VA Dickenson; VA Lee; VA Russell; VA Smyth; VA Tazewell; VA Wise; VA Norton; WV McDowell; WV Mercer.	
Maryland:	
019 Baltimore MD	
Non-SMSA Counties .....	
MD Caroline; MD Dorchester; MD Kent; MD Queen Annes; MD Somerset; MD Talbot; MD Wicomico; MD Worchester; VA Accomack; VA Northampton.	

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S100B00-0708

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**PROJECT COMMUNICATION AND DECISION MAKING**

January 3, 2005c  
Reissued July 2008

**I. DESCRIPTION**

The intent of this provision is to establish procedures, processes and guidelines for making decisions and managing communications regarding work under contract on construction and maintenance projects. The information contained herein is not meant to be all inclusive but to serve as a minimal general framework for promoting efficient and effective communication and decision making at both the project and, if needed, executive administrative level. It is also not meant to override the decision-making processes or timeframes of specific contract requirements.

**II. DEFINITIONS**

For the purposes of this provision the following terms will apply and be defined as follows:

**Submittals** – Documents required by the contract that the Contractor must submit for the Department's review, acceptance or approval. These may include shop drawings, working drawings, material test reports, material certifications, project progress schedules, and schedule updates. The Contractor shall produce submittals as early as practicable when required by the contract so as not to delay review and determination of action.

**Confirmation of verbal instructions (COVI)** – Contractor requested written confirmation of agreements and instructions developed in negotiations with the Department concerning the Work under contract. Agreements must be able to be quantified using existing contract procedures and will, in the vast majority of cases, not impact contract time and cost. When time and/or cost are impacted, they must be clearly spelled out in the COVI.

**Requests for information (RFI)** – Requests generated by either the Contractor or the Department that the other party supplies information to better understand or clarify a certain aspect of the Work.

**Requests for owner action (ROA)** – Requests when the Contractor asks that the Department take certain action(s) the Contractor feels is required for proper completion of a portion of the Work or project completion.

**Contract change requests (CCR)** – Request where the Contractor asks the Department to make an equitable adjustment to the contract because of excusable and/or compensable events, instructions that have or have not been given or other work requiring time and/or cost beyond that specified or envisioned within the original contract.

**Requests for contractor action (RCA)** – Request generated by the Department where the Department asks the Contractor to take certain action that is in the best interests of the project and/or is required for proper completion of a portion of the Work or for project completion.

**Contract change directives (CCD)** – Directive by the Department which instructs the Contractor to perform work beyond that specified or envisioned in the original contract and which may specify instructions, time, and cost(s) to make an equitable adjustment to the original contract.

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**Responsible Person** – The individual in the normal or escalated resolution process, for either the Contractor or the Department, having the direct authority, responsibility and accountability to formulate and respond to each category of information request.

**III. PROCESS FOR DECISION MAKING**

Project teams composed on responsible individuals directly involved in the administration, prosecution, and inspection of the Work from the Contractor and the Department shall define and agree upon the field decision-making process during the pre-construction conference. This information relative to the process should be written down and distributed to all parties of the process once it is established. Where there are responsibility, authority or personnel changes associated with this process such changes shall be distributed to all affected parties as quickly as practicable after they are effective so as not to delay or impede this process.

The process for making field decisions with respect to the Work detailed in the contract basically requires the following steps:

1. The Contractor and the Engineer agree on the decision-making process, the identity, authority and accountability of the individuals involved and on the cycle times for response for each category of decision.
2. The party requiring the information generates the appropriate request documents, and calls for a decision from the individual who is accountable for the particular facet of the Work under consideration within the agreed period.
3. The responding party has an internal decision-making process that supports the individual who is accountable and provides the information required within the agreed period for each category of request.
4. The party receiving the decision has an internal process for accepting the decision or referring it for further action within an agreed period of time.

The process also requires that clear and well-understood mechanisms be in place to log and track requests, document the age and status of outstanding requests and actions to be taken on requests that have not been answered within the agreed period.

Both the Department and the Contractor shall agree on the following:

- The documentation and perhaps format to be developed for each category of information requested,
- The name (as opposed to organizational position) of all individuals with the responsibility, authority and accountability to formulate and respond to each category of information requested. The District Administrator (DA) or Chief Executive Officer (CEO) of the Contractor may delegate the responsibility and authority for formulating and responding to requests, however, the accountability for meeting the established response time(s) remains with the District Administrator and CEO.
- The cycle times for each stage in the decision-making process,
- The performance measures to be used to manage the process,
- The action to be taken if cycle times are not achieved and information is not provided in a timely manner.

The following general guideline and timeframe matrix will apply to the various requests for action. Again, please note these guidelines are general in scope and may not apply to specific contract timeframes for response identified within the requirements of the Contract documents. In such cases, specific contract requirements for information shall apply.

**PROCESS GUIDELINES FOR REQUESTS GENERATED BY THE CONTRACTOR**

Process	Situation	Normal resolution process		Escalated process		Final resolution
		By	Within (calendar days)	By	Within	
Submittal	Where the Contractor requests the Department's review, acceptance or approval of shop drawings, materials data, test reports, project progress schedules, or other submittals required by standard Specifications or other contract language.	Department's Designated Project Manager	<ul style="list-style-type: none"> <li>● Acknowledge: 3 days<sup>1</sup></li> <li>● Accept or Return: 14 days</li> <li>● Final Determination/Approve: 30 days or as outlined in contract documents.</li> </ul>	DA or their designee*	7 days	Submit ROA or CCR
Confirmation of Verbal Instruction (COVI)	Resolving routine field issues, within the framework of the Contract, in negotiation with Owner field personnel.	Department's Appropriate field personnel	<ul style="list-style-type: none"> <li>● Confirmation: 1 day<sup>2</sup></li> </ul>	Submit RFI, ROA or CCR	7 days	(See process for RFI, ROA, or CCR)
Request for Information (RFI)	Requests the Department to supply information to better understand or clarify a certain aspect of the work.	Department's Designated Project Manager	<ul style="list-style-type: none"> <li>● Action: 14 days (or appropriate Action Plan)</li> </ul>	DA or their designee*	7 days	Submit ROA or CCR
Request for Owner Action (ROA)	Requests that the Department take certain action the Contractor feels is required for proper completion of a portion of the Work or project completion.	Department's Designated Project Manager	<ul style="list-style-type: none"> <li>● Acknowledge: 3 days<sup>1</sup></li> <li>● Action: 14 days (or appropriate Action Plan)</li> </ul>	DA or their designee*	7 days	Submit CCR
Contract Change Request (CCR)	Requests the Department to make an equitable adjustment to the contract because of excusable and/or compensable events, instructions that have or have not been given or other work requiring time and/or cost beyond that specified or envisioned within the original contract.	Department's Designated Project Manager	<ul style="list-style-type: none"> <li>● Acknowledge: 3 days<sup>1</sup></li> <li>● Action: 30 days (45 days if federal oversight project)</li> </ul>	DA or their designee*	7 days	Established dispute resolution and claims process

<sup>1</sup> Process initiated on the last business day of a week shall be acknowledged before 5 pm on the next VDOT business day.

<sup>2</sup> The absence of a written confirmation from the Owner to a Contractor's written request for confirmation of a verbal instruction shall constitute confirmation of the verbal instruction.

**PROCESS GUIDELINES FOR REQUESTS GENERATED BY THE OWNER**

Process	Situation	Normal resolution process		Escalated process		Final resolution
		By	Within (calendar days)	By	Within	
1. RFI	Requests the Contractor to supply information to better understand or clarify a certain aspect of the work. (RFI)	Contractor's Project Superintendent	<ul style="list-style-type: none"> <li>Action: 14 days (or appropriate written Action Plan)</li> </ul>	Contractor's Project Manager	7 days	Submit RCA or CCD
2. RCA	Requesting the Contractor take certain action(s) that is in the best interests of the project and/or is required for proper completion of a portion of the work or for project completion. (RCA)	Contractor's Project Superintendent	<ul style="list-style-type: none"> <li>Response or Action to safety and environmental issues: 1 day</li> <li>Otherwise acknowledge: 3 days<sup>1</sup></li> <li>Action: 14 days (or appropriate Action Plan)</li> </ul>	Contractor's Project Manager	7 days	Submit CCD
3. CCD	Instructs the Contractor to perform work beyond that specified or envisioned in the original contract and undertakes action(s) to make an equitable adjustment to the contract. (CCD)	Contractor's Project Superintendent	<ul style="list-style-type: none"> <li>Acknowledge: 3 days<sup>1</sup></li> <li>Action: 30 days</li> </ul>	CEO or their designee**	7 days	Established dispute resolution and termination process

<sup>1</sup> Process initiated on the last business day of a week shall be acknowledged before 5 p m on next project business day.

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S102CF1-0309

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**USE OF DOMESTIC MATERIAL**

February 26, 2009

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

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

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

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

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

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

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

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

**Waivers:**

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

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

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

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

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

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

**Alternative Bidding Procedures:**

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

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

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

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

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

**Certification of Compliance:**

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

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

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S107G01-0309

**C-45**  
Rev. 2-19-09

VIRGINIA DEPARTMENT OF TRANSPORTATION

**STORMWATER POLLUTION PREVENTION PLAN (SWPPP) GENERAL PERMIT FOR THE  
DISCHARGE OF STORMWATER FROM CONSTRUCTION ACTIVITIES CONTRACTOR AND  
SUBCONTRACTOR CERTIFICATION STATEMENT**

Order No.:     G34     Project Number:     (NFO) TS06-968-911, N501      
Route:     Various     Contract ID. #:     C00097026T11    

I certify under penalty of law that I understand the terms and conditions of the project contract, plans, permits, specifications and standards related to the erosion and sediment control, stormwater management and stormwater pollution prevention plan requirements for the affected activities associated with this project, the Virginia Stormwater Management Program (VSMP), and the General Permit for the Discharge of Stormwater from Construction Activities, if applicable to this project, issued by the Virginia Department of Conservation and Recreation. The VSMP Permit authorizes the storm water discharges associated with the construction activities from the project site identified and described in the bid documents and subsequent contract including any off-site support activities required for the complete fulfillment of the work therein.

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Contracting Firm: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Address/Description of Site: \_\_\_\_\_  
(Include off-site areas) \_\_\_\_\_

Certified on this date: \_\_\_\_\_

(Note: This form must be returned with performance and payment bonds)

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S107HF0-0708

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**SECTION 107.15**

January 17, 2008cc

**Section 107.15** of the Specifications is replaced by the following:

**Section 107.15—Use of Disadvantaged Business Enterprises (DBEs)**

**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 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 VDOT's Road and Bridge Specifications and DBE Program rules and regulations.

All time frames referenced in this provision are expressed in workdays 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 workday.

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.

**Miscellaneous DBE Program Requirements.**

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.

**Required Contract Provisions.**

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.

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

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**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: [www.Virginiadot.org/business/bu-civil-rights-support-specs](http://www.Virginiadot.org/business/bu-civil-rights-support-specs).

**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 Department of Minority Business Enterprises or VDOT in accordance with federal and VDOT guidelines. A directory listing of certified DBE firms can be obtained from Department of Minority Business Enterprises Internet website: [www.dmb.state.va.us](http://www.dmb.state.va.us) .

**DBE Program-related Certifications Made by Bidders\Contractors.**

Bids will be considered non-responsive and will be rejected for failure to comply with the requirements of this Special Provision and the contract specifications. 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 certified DBE firms have been given full and fair opportunity to participate in the performance of the contract. The bidder certifies that all reasonable steps were, and will be, taken to ensure that DBE firms had and will have an opportunity to compete for and perform work on the contract. The bidder further certifies that the bidder shall not discriminate on the basis of race, color, age, national origin, or sex in the performance of the contract or in the award of any subcontract.

Any agreement between a bidder and a DBE whereby the DBE promises not to provide quotations for performance of work to other bidders is prohibited.

- (4) As a bidder good faith efforts were made to obtain certified DBE participation in the proposed contract at or above the goal for certified DBE participation established by VDOT. It has submitted as a part of its bid a true, accurate, complete, and detailed written explanation of the good faith efforts it performed to meet the contract goal for certified DBE participation.
- (5) Once awarded the contract, the Contractor shall make good faith efforts to utilize certified DBE firms to perform work designated to be performed by certified 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.

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Once a contract is awarded, 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 certified 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.

- (6) 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. If it is awarded the contract and if VDOT determines that as the Contractor, a DBE 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 goals 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.
- (7) In the event a bond surety takes over the completion of work after VDOT has terminated the prime Contractor, the surety shall be obligated to meet the same DBE contract goals as were required of the original prime Contractor in accordance with the requirements of this specification.

**Designation of DBE Firms to Perform on Contract.**

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 certified DBE firms that will participate in the contract, the specific line item(s) that each listed certified DBE firm will perform, and the creditable dollar amounts of the participation of each listed certified DBE. The specific line item must reference the VDOT line number and item number contained in the proposal. The bidder further certifies, by signing its bid, it has committed to use each certified DBE firm listed for the specific work item shown to meet the contract goal for certified 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 it proposes to sublet, it has made good faith efforts to seek out and consider certified 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.

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

- (1) When a 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 Engineer that it has made good faith efforts to do so.

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When a 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.

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) 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 (1) above, shall notify VDOT in writing before terminating and/or replacing the certified DBE that was committed as a condition of contract award or that is otherwise being used or represented to fulfill certified 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 certified 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) Contractor's Written Request to Terminate DBE

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

- (i) The date the Contractor determined the certified DBE to be unwilling, unable, or ineligible to perform;
- (ii) The projected date that the Contractor shall require a substitution or replacement DBE to commence work if consent is granted to the request;
- (iii) A brief statement of facts describing and citing specific actions or inaction by the certified DBE giving rise to the Contractor's assertion that the certified DBE is unwilling, unable, or ineligible to perform;
- (iv) A brief statement of the affected certified DBE's capacity and ability to perform the work as determined by the Contractor;
- (v) A brief statement of facts regarding actions taken by the Contractor which are believed to constitute good faith efforts toward enabling the certified DBE to perform;
- (vi) The current percentage of work completed on each bid item by the certified DBE;
- (vii) The total dollar amount currently paid per bid item for work performed by the DBE;

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(viii) The total dollar amount per bid item remaining to be paid to the certified DBE for work completed, but for which the certified DBE has not received payment, and with which the Contractor has no dispute;

(ix) The total dollar amount per bid item remaining to be paid to the certified DBE for work completed, but for which the certified DBE has not received payment, and over which the Contractor and/or the certified 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 Engineer. The affected DBE firm may submit a response letter to the Department within two (2) working 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 the affected, committed DBE firm is unable or unwilling to continue the contract, and the Department will immediately approve the Contractor's request for a substitution.

(c) Proposed Substitution of Another Certified DBE

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

When a DBE substitution is necessary the Contractor shall submit in writing the name of another certified 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 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 merely superficial or pro-forma will not be considered good faith efforts to meet the contract goal for certified DBE participation. The Contractor must document the steps taken that demonstrate good faith efforts to obtain participation as set forth in the **Good Faith Efforts Described** section of this Special Provision.

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**Bidding Procedures.**

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

**Contract Goal, Good Faith Efforts Specified.**

All bidders evidencing the attainment of DBE goal commitment equal to or greater than the required DBE goal established for the project must submit completed Form C-111 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 2 hours after the time stated in the bid proposal for the receipt of bids.

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 attained as a part of its bid documents. The bidder shall then submit its good faith efforts within two (2) working days after the bid opening.

The lowest responsive and responsible bidder must submit its properly executed Form C-112 within two (2) working days after the bids have been opened and the determination of apparent lowest bidder. If, after review of the apparent lowest bid, VDOT determines the DBE requirements have not been met, the apparent lowest successful bidder must submit good faith documentation, which must be received by the Contract Engineer within two (2) working days after official notification of such failure to meet the aforementioned DBE requirements.

**Good Faith Efforts Described.**

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:

- (1) Soliciting through reasonable and available means, such as but not limited to, attendance at pre-bid meetings, advertising, and written notices to certified DBEs who have the capability to perform the work of the contract. Examples include: advertising in at least one daily newspaper of general circulation; 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 on Department standard good faith documentation forms;
- (2) Selecting portions of the work to be performed by certified 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 perform these work items completely or with its own forces;
- (3) Providing interested certified 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;

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- (4) Negotiating for participation in good faith with interested DBEs;
  - (a) 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;
  - (b) A bidder using good business judgment should consider a number of factors in negotiating subcontractors, including certified 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 certified DBEs is not sufficient reason for a bidder's failure to meet the contract goal for certified 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;
- (5) A bidder cannot reject a certified DBE as being unqualified without sound reasons based on a thorough investigation of the DBE's capabilities. The certified 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 certified DBE participation;
- (6) Making efforts to assist interested certified DBEs in obtaining bonding, lines of credit, or insurance as required by VDOT or by the bidder/Contractor;
- (7) Making efforts to assist interested certified DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services subject to the restrictions contained in these provisions;
- (8) Effectively using the services of appropriate personnel from VDOT and from the Virginia Department of Minority Business Enterprises, (VDMBE); 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.

**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.

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. 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.

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If the lowest bidder is rejected for failure to submit required documentation, 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 Transportation Board (CTB).

**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 certified written documentation of its good faith efforts made to meet the DBE contract goal as proposed by VDOT within the timeframe specified in this section of the provision. No extension of time for submittal of good faith effort documentation will be allowed. 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 certified DBE firm 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 and C-112 and good faith efforts as aforementioned, or face potential bid rejection. If a bidder does not submit its completed and executed C-111 or C-112 when required by this Special Provision the bidder's bid will be considered non-responsive and will 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) 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 for the Civil Rights, Scheduling and Contract and Procurement divisions, 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.

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.

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**During the Contract**

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

Prior to enjoinder from bidding or denial to participate as a subcontractor for failure to comply with participation requirements, as provided hereinbefore, the Contractor may submit documentation to the 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 Engineer upon verification of such documentation shall make a determination whether or not the Contractor has met the requirements of the contract.

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

**DBE Participation for Contract Goal Credit**

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

- (1) Cost-plus subcontracts will not be considered to be in accordance with normal industry practice and will not normally be allowed for credit.
- (2) The applicable percentage of the total dollar value of the contract or subcontract awarded to the DBE will be counted toward meeting the contract goal for certified DBE participation in accordance with the **Designation of DBE Firms to Perform on Contract** section of this Special Provision for the value of the work, goods, or services that are actually performed or provided by the certified DBE firm itself or subcontracted by the certified DBE to other certified DBE firms.
- (3) When a certified DBE performs work as a participant in a joint venture, 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 certified 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 certified DBE's credit toward the DBE contract goal.

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 VDOT certified DBE. Work that a certified 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 certified participation.

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- (4) The Contractor may count expenditures to a certified DBE subcontractor toward the DBE contract goal only if the certified DBE performs a Commercially Useful Function (CUF) on that contract.
- (5) A Contractor may not count the participation of a certified 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 certified DBE. A Contractor may count sixty (60) percent of its expenditures actually paid for materials and supplies obtained from a DBE certified by VDOT as a regular dealer, and one hundred (100) percent of such expenditures actually paid for materials and supplies obtained from a VDOT 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 material, 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 certified 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 in question. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions will not be considered regular dealers.
  - (b) A certified 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 certified 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 certified 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 certified DBE regular dealer. Those delivery costs shall be deemed included in the price charged for the goods or materials by the certified 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 material, 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.
- (6) A Contractor may count toward the DBE contract goal the following expenditures to certified DBE firms that are not regular dealers or manufacturers for DBE program purposes:
  - (a) The entire amount of fees or commissions charged by a certified 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.

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- (b) The entire amount of that portion of the construction contract that is performed by the certified 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 certified DBE for contract work, including supplies purchased or equipment leased by the certified DBE, except supplies and equipment a certified DBE subcontractor purchases or leases from the prime Contractor or its affiliates.
- (7) A Contractor may count toward the DBE contract goal one hundred (100) percent of the fees paid to a certified 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, nor could a Contractor count costs for the removal or relocation of excess material from or on the job site when the certified DBE trucking company is not also the manufacturer of or a regular dealer in those materials and supplies. The certified DBE trucking firm shall also perform a 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.
- (8) The Contractor will receive DBE contract goal credit for the fees or commissions charged by and paid to a certified 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 arranges for delivery of material, supplies, and equipment, or arranges project services but does not own or operate the delivery equipment necessary to transport materials, supplies, or equipment to or from a job site. A broker typically shall not purchase or pay for the material, supplies, or equipment, and if the broker does purchase or pay for those items those costs will be reimbursed in full. To receive DBE contract goal credit VDOT must determine that the DBE broker has performed a CUF in providing the contract work or service.

**Performing a Commercially Useful Function (CUF)**

No credit toward the DBE contract goal will be allowed for contract payments or expenditures to a certified 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 certified 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 certified DBE's own forces and equipment, and paying for those materials and supplies. The amount the certified DBE firm is to be paid under the contract shall be commensurate with the work the certified DBE actually performs and the DBE credit claimed for the certified DBE's performance.

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**Monitoring CUF Performance**

It shall be the Contractor's responsibility to ensure that all certified 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 certified DBE firm fully performs the certified DBE's designated tasks with the certified DBE's own forces and equipment under the certified 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 involved, VDOT will presume that the DBE is not performing a commercially useful function and such participation will not be counted toward the contract goal.

**Factors Used to Determine if a DBE Trucking Firm is Performing a CUF**

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

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

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

EXAMPLE: DBE Firm X uses two (2) of its own trucks on a contract. The firm leases two (2) trucks from DBE Firm Y and six (6) trucks from non-DBE Firm Z. 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. In all, full DBE credit would be allowed for the participation of eight (8) trucks. With respect to the other two trucks provided by non-DBE Firm Z, DBE credit could be awarded only for the fees or commissions pertaining to those trucks that DBE Firm X receives as a result of the lease with non-DBE Firm Z.

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

**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 may be subject to disallowance under the DBE Program, unless the independent validity and need for such an arrangement and work is demonstrated.

**Verification of DBE Participation and Imposed Damages.**

Within fourteen days after contract execution, the Contractor shall submit to the Engineer 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 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 shall 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. 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.

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The Contractor shall also furnish, and shall require each subcontractor to furnish, information relative to all DBE involvement on the project for each month during the life of the contract in which participation occurs and verification is available. The information shall be indicated on Form C-63 and certified on Form C-63A, or by copies of cancelled checks with appropriate identifying notations. Failure to provide the forms to the Engineer by the Contractor's monthly progress estimate date 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 Department's latest list of certified DBEs. Signatures on all forms indicated herein shall be those of authorized representatives of the bidder as shown on Form C-32 or Form C-32A, or authorized by letter from the bidder. If certified 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.

The Contractor shall submit to the Engineer its progress schedule as required by Section 103.06 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 currently certified 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 timeframes, 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.

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**Documentation Required for Semi-final Payment.**

On those projects nearing completion, the Contractor must submit Form C-63 and appropriate Form C-63A(s) marked "Semi-Final" within twenty (20) days after the submission of the last regular monthly progress estimate to the Engineer. The forms must include each certified DBE used on the contract work and the work performed by each certified DBE. The forms shall include the actual dollar amount paid to each certified DBE for the accepted creditable work on the contract and monies owed the certified DBE subcontractor. The forms 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 forms 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 certified DBEs, will accompany the forms, indicating the amount, including any retainage that remains to be paid to the certified DBE(s).

**Documentation Required for Final Payment.**

On those projects that are complete, the Contractor shall submit a final Form C-63 and Form C-63A(s) marked "Final" to the Engineer within thirty (30) days of final acceptance. The forms must include each certified DBE used on the contract and the work performed by each DBE. The forms shall include the actual dollar amount paid to each DBE for the creditable work on the contract and monies owed the DBE subcontractor. VDOT will use these forms 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 the DBEs were paid for that work. The Contractor shall acknowledge by the act of signing and filing the forms that the information is supplied to obtain payment regarding a federal participation contract.

**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(a), and Section 109.10 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 109.08(b) of the Specifications.

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If the Contractor fails to make payment of the subcontractor's portion of the work within the timeframe specified herein, the subcontractor shall contact the 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 109.08(b) of the Specifications.

The Department will withhold payment of the Contractor's monthly progress estimates until the Contractor ensures that the subcontractors have been promptly paid for the work that they have performed successfully and for which the Department has accepted and paid the Contractor.

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.

**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 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 within ten (10) days after the bid opening. Failure of bidders to submit this form in the timeframe specified will be cause for rejection of the bid.

**Summary of Remedies Available to VDOT**

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:

**Disadvantaged Business Enterprise (DBE) Program Requirements.**

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

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**DBE Program-related Certifications Made by Bidders\Contractors**

Bids will be considered non-responsive and will be rejected for failure to comply with the requirements of this Special Provision and the contract specifications. Where a contract exists and where the Contractor, a DBE 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 goals 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.

**Bid Rejection**

The failure of bidders 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 the bid.

If the lowest bidder is rejected for failure to submit required documentation, 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 Transportation Board (CTB).

**Documentation and Administrative Reconsideration of Good Faith Efforts**

**During Bidding**

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 and C-112 and good faith efforts as aforementioned or face potential bid rejection. If a bidder does not submit its completed and executed C-111 or C-112 when required by this Special Provision the bidder's bid will be considered non-responsive and will 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. 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 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.

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**Verification of DBE Participation and Imposed Damages for Non-compliance**

If the Contractor fails to comply with correctly completing and submitting any of the required documentation requested by this provision within the specified timeframes, 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.

**Prompt Payment Requirements**

The Department will withhold payment of the Contractor's monthly progress estimates until the Contractor ensures that the subcontractors have been promptly paid for the work that they have performed successfully, and for which the Department has accepted and paid the Contractor.

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

**Suspect Evidence of Criminal Behavior.**

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

**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 49 CFR Part 31.

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S109D01-0609

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**PRICE ADJUSTMENT FOR STEEL**

February 6, 2009

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 in accordance with this provision. Provided within this Special Provision is a master listing of standard bid items the Department has determined are eligible for steel price adjustment.

Included with the bidding proposal is an automatically generated project-specific listing of standard bid items the Department has identified as eligible for steel price adjustment. 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, in which case such items may be addressed by project specific provisions and their related pay items designated in the bid proposal as being eligible. The listing of 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

In order to confirm eligibility for steel price adjustment under this provision, within 15 calendar days after the date of the Contract Award letter, the Contractor shall submit to the State Contract Engineer on Form C-21C 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. If the Contractor fails to return his Form C-21C within the timeframe specified, no steel items will be eligible for steel price adjustment on the designated project.

**Please note:** Inventoried materials from the listing of eligible items are specifically excluded for consideration. Additionally, items from the listing of eligible items for which the Contractor has requested payment as Material on Hand in accordance with the provisions of Section 109.09 are 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.

The requirements of 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. In addition to the requirements listed above, to be eligible for this price adjustment, the Contractor, subcontractor and/or supplier is required to place his purchase order for the steel items in his contract he has designated for price adjustment within 30 calendar days after the date of execution of this contract with the Department so as to better ensure reduced cost for steel used in such items. The timeliness of his response is also to insure the receipt of such items in a timely manner that shall not adversely affect his progress schedule or contract completion date. Further, in order for steel items to be eligible for adjustment, once shipped to the fabricator, the items shall be specifically stored, labeled, or tagged, recognizable by color marking, and identifiable by project for inspection and audit verification.

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Within 14 days after the date of contract execution, the Contractor shall submit to the appropriate District Construction Engineer material price quotes, bid papers, or other similar type of documentation satisfactory to the Department for the bid items listed in the Contract for which it is requesting a steel price adjustment. This documentation shall 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.

Failure to submit specifically required information such as purchase order, price data, bill of lading, material information or other requested information as noted herein will result in the Contractor not being eligible for price adjustment of steel items.

Price adjustment of each qualifying item under consideration will be subject to the following condition:

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.

The table attached to the end of this provision indicates the Producers Price Index (PPI) steel category index items and the corresponding I.D. numbers to which VDOT items will be compared.

The price adjustment will be determined by computing 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.

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The need for application of the adjustments herein to extra work will be determined by the Engineer on an individual basis and, if appropriate, will be specified on the Work Order.

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.

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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.

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20-Jan-05

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**Sample Calculation of a Price Adjustment (increase)**

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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:

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

- 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 shipped to fabricator in October 2004 for this project in pounds

$$B = \$0.2816$$

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

$$Q = 450,000 \text{ lb.}$$

$$A = 0.2816 \times 0.054 \times 450,000$$

$$A = \$6,842.88 \text{ pay adjustment to Contractor}$$



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**MASTER LISTING**

**STANDARD BID ITEMS ELIGIBLE FOR STEEL PRICE ADJUSTMENT**

Sept. 24, 2008  
 Dec. 4, 2008  
 January 14, 2009  
 March 18, 2009

rev # 1 added 4 corrosion resistant re-bar items.  
 rev # 2 deleted item 68138 straighten structural steel  
 rev # 3 identified BLS WPU used in \$ adjustment  
 added items 61813,68109 & 68110

**BLS Series I. D.**

ITEM NUMBER	ITEM DESCRIPTION	UNITS	Number WPU used in \$ adjust.
00519	SHEET PILE, STEEL	SF	avg. 1017 & 101
00540	REINF. STEEL	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
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
13341	GUARDRAIL TER. GR-6(WEATHERING STEEL	LF	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
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
17353	CABLE GR-3	LF	avg. 1017 & 101
17521	GUARDRAIL BEAM (WEATHERING STEEL)	LF	avg. 1017 & 101
17523	RADIAL GUARDRAIL BEAM (WEATHERING STEEL)	LF	avg. 1017 & 101
17525	RUB RAIL (WEATHERING STEEL)	LF	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

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45582	24" STEEL ENCASE. PIPE	LF	101706
45584	24" JACKED STEEL ENCASUREMENT 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
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

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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
67086	PED. FENCE 6'	LF	avg. 1017 & 101
67088	PED. FENCE 8'	LF	avg. 1017 & 101
67089	PED. FENCE 10'	LF	avg. 1017 & 101
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
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

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**S109F00-0708**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**OPTIONAL ADJUSTMENT FOR FUEL**

December 20, 2005c  
Reissued July 2008c

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 will automatically not be 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.

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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.

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**S302B00-0708**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**RESTORING EXISTING PAVEMENT**

January 14, 2008c

**I. DESCRIPTION**

This work shall consist of restoring existing pavement, removed for installation or repair of utilities such as, but not limited to pipe culverts, conduits, water and sanitary sewer items.

**II. MATERIALS**

Asphalt Concrete shall conform to the requirements of Section 211 of the Specifications.

Aggregate Subbase material shall conform to the requirements of Section 208 of the Specifications.

Asphalt Material shall conform to the requirements of Section 210 of the Specifications.

Fine Aggregate shall conform to the requirements of Section 202 of the Specifications.

Coarse Aggregate for surface treatment shall conform to the requirements of Section 203 of the Specifications.

Hydraulic Cement Concrete Class A3 shall conform to the requirements of Section 217 of the Specifications.

Steel Reinforcement shall conform to the requirements of Section 223 of the Specifications.

**III. PROCEDURES**

Pavement restoration shall be in accordance with this Provision and plan notes.

Backfill shall be in accordance with Section 302.03(a)2.g. of the Specifications.

Asphalt Concrete shall be placed and compacted in accordance with Section 315 of the Specifications.

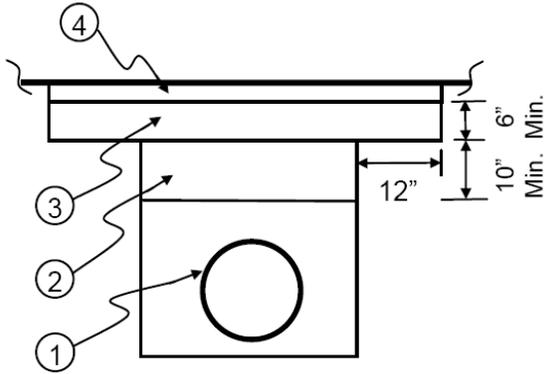
Surface Treatment shall be placed in accordance with the Asphalt Surface Treatment special provision and the attached drawing.

Concrete Pavement shall be placed in accordance with Section 509 of the Specifications and this special provision. Open trench in Hydraulic Cement Concrete Pavement should be located at existing transverse joints if at all possible. If concrete pavement is removed within two feet of an existing transverse joint, pavement removal shall be extended two feet beyond the joint. Reinforcing steel and dowels shall be installed in accordance with Road and Bridge Standard PR-2. Joint replacement shall be in accordance with Road and Bridge Standard PR-2.

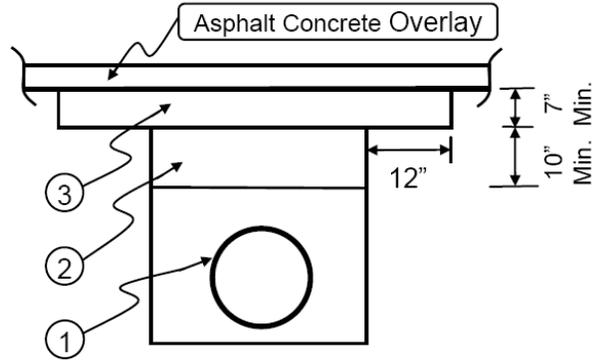
**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

**IV. MEASUREMENT AND PAYMENT**

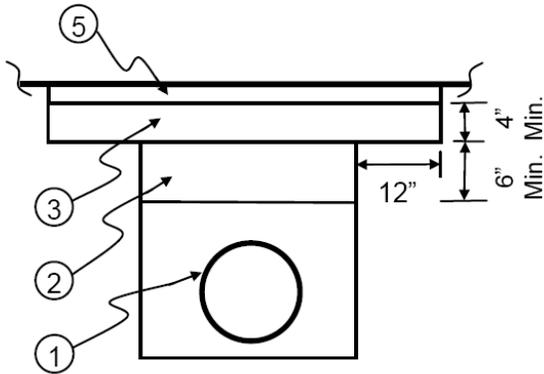
Restoring Existing Pavement unless otherwise specified will not be measured for separate payment, the cost thereof shall be included in the price bid for the utility to which it pertains in accordance with Section 302.04, Section 520.06 or Section 705.04 of the Specifications, as appropriate. However, widths and depths in excess of the attached drawing that are authorized or directed by the Engineer will be paid for in accordance with Section 109.05 of the Specifications.



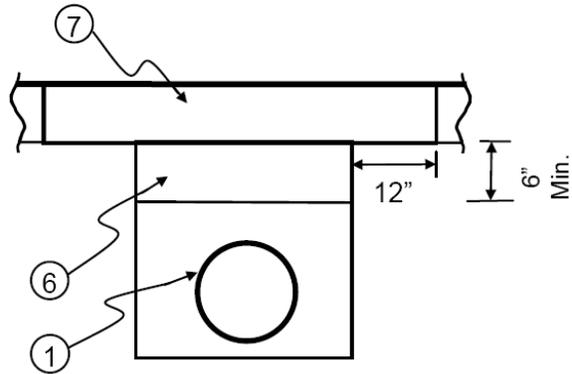
PAVEMENT STRUCTURE  
Asphalt Conc. Base and Surface



PAVEMENT STRUCTURE  
Scheduled for Asphalt Conc. Overlay



PAVEMENT STRUCTURE  
Aggregate Base and Surface Treatment



PAVEMENT STRUCTURE  
Hydraulic Cement Concrete

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NOTES:

The following methods for restoring existing pavement shall be adhered to unless otherwise specified on the plans.

1. Pipe culverts, conduits and utility items shall be installed in accordance with the applicable Road and Bridge Standards and Specifications.
2. Subbase - Aggregate material Type 1, Size 21A or 21B.
3. Asphalt Concrete Type BM-25.0
4. Surface - Asphalt Concrete Type SM-9.5D @ 165 lbs. per sq. yd.
5. Surface - Blotted Seal Coat Type C: The initial seal and final seal shall be CRS-2, CMA-2 or CMS-2h liquid asphalt material @ 0.17 gal./sq. yd. with 15 lbs. of No. 8P stone/sq. yd. each. The blot seal shall be CRS-2, CMS-2 or CMS-2h liquid asphalt material @ 0.15 gal./sq. yd. with 10 lbs. of fine aggregate grade B sand per sq. yd.
6. Subbase - Aggregate material Type 1 Size 21B
7. Surface - Hydraulic Cement Concrete, high early strength, matching existing structure for depth and surface texture.

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

S522B00-1109

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**INFORMAL PARTNERING**

January 14, 2008

**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 documents 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 by the Special Provision for Project Communication and Decision Making now included as standard provision in all contracts advertised by the Scheduling and Contract Division of VDOT.

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.

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**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.

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 pursued 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 the all 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.

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SS1D010-1010

September 16, 2010

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL DIVISION I—GENERAL PROVISIONS**

**SECTION 101—DEFINITIONS OF ABBREVIATIONS, ACRONYMS, AND TERMS**

**Section 101.02—Terms** of the Specifications is amended to replace the definition for **Notice to Proceed** with the following:

**Notice to Proceed.** A date selected by the Contractor that is no earlier than 15 nor later than 30 calendar days after the date of contract execution on which the Contractor intends to begin the work, or a contract specific date on which the Contractor may begin the work identified as the Notice to Proceed date in the Contract Documents.

**SECTION 102—BIDDING REQUIREMENTS AND CONDITIONS**

**Section 102.04(c) Notice of Alleged Ambiguities** of the Specifications is amended to replace the first paragraph with the following:

If a word, phrase, clause, or any other portion of the proposal is alleged to be ambiguous, the Bidder shall submit to the State Contract Engineer a written notice of the alleged ambiguity not later than 10 days prior to the date of receipt of bids and request an interpretation thereof. This written notice shall be submitted via the CABB (Contractor Advertisement Bulletin Board) system located on the Construction website at [www.VDOT.Virginia.gov](http://www.VDOT.Virginia.gov). Authorized interpretations will be issued by the State Contract Engineer to each person who received a proposal and will be posted on the CABB system.

**SECTION 105—CONTROL OF WORK**

**Section 105.01—Notice to Proceed** of the Specifications is replaced with the following:

Unless otherwise indicated in the Contract, the Notice to Proceed date will be the date selected by the Contractor on which the Contractor intends to begin the work. That date shall be no earlier than 15 nor later than 30 calendar days after the date of contract execution. The State Contract Engineer will contact the Contractor on the date of contract execution to inform him that the contract has been executed. The State Contract Engineer will also confirm this date in the Letter of Contract Execution.

Copies of the Letter of Contract Execution will be distributed to Department personnel involved in the administration of the Contract and to the Contractor. Within 10 calendar days after the date of contract execution the Contractor shall submit to the Engineer written notice of the date he has selected as his Notice to Proceed date. If the Contractor fails to provide written notice of his selected Notice to Proceed Date within 10 calendar days of contract execution, the selected Notice to Proceed Date will become the date 15 calendar days after the date of contract execution. The Contractor shall begin work no later than 10 calendar days after the date he has selected as his Notice to Proceed date, unless the Notice to Proceed date is otherwise indicated in the Contract, in which case the Contractor shall begin work within 10 calendar days after the specific Notice to Proceed date indicated in the Contract.

Contract Time will commence on the date of the Notice to Proceed. The Letter of Contract Execution will identify the Chief Engineer's authorized representative, hereafter referred to as the Engineer, who is responsible for written directives and changes to the Contract. The Engineer will contact the Contractor after notice of award to arrange a pre-construction conference.

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In the event the Contractor, for matters of his convenience, wishes to begin work earlier than 15 calendar days or later than 30 calendar days after the date of contract execution, he shall make such a request in writing to the Engineer within 10 calendar days of the date of contract execution or once a Notice to Proceed Date has been established, if he wishes to begin work more than 10 calendar days after his selected Notice to Proceed date or the Notice to Proceed Date indicated in the Contract, he shall make such a request to the Engineer in writing no later than 5 calendar days after the Notice to Proceed date. If this requested start date is acceptable to the Department, the Contractor will be notified in writing; however, the Contract fixed completion date will not be adjusted but will remain binding. The Contractor's request to adjust the start date for the work on the Contract will not be considered as a basis for claim that the time resulting from the Contractor's adjusted start date, if accepted by the Engineer, is insufficient to accomplish the work nor shall it relieve the Contractor of his responsibility to perform the work in accordance with the scope of work and requirements of the Contract. In no case shall work begin before the Department executes the Contract or prior to the Notice to Proceed date unless otherwise permitted by the Contract or authorized by the Engineer. The Contractor shall notify the Engineer at least 24 hours prior to the date on which he will begin the work.

**Section 105.02—Pre-Construction Conference** of the Specifications is amended to replace the first paragraph with the following:

After notification of award and prior to the Notice to Proceed date the Contractor shall attend a pre-construction conference scheduled by the Engineer to discuss the Contractor's planned operations for prosecuting and completing the work within the time limit of the Contract. At the pre-construction conference the Engineer and the Contractor will identify in writing the authorities and responsibilities of project personnel for each party. The pre-construction conference may be held simultaneously with the scheduling conference when the Engineer so indicates this in advance to the Contractor. When these are simultaneously held, the Contractor shall come prepared to discuss preparation and submittal details of the progress schedule in accordance with the requirements of the Contract.

**Section 105.10(c)(1)—Steel Structures** of the Specifications is replaced with the following:

Working drawings for steel structures, including metal handrails, shall consist of shop detail, erection, and other working drawings showing details, dimensions, sizes of units, and other information necessary for the fabrication and erection of metal work.

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

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

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

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

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

**Section 105.15(b) Mailboxes and Newspaper Boxes** of the Specifications is replaced with the following:

- (b) **Mailboxes and Newspaper Boxes:** When removal of existing mailboxes and newspaper boxes is made necessary by construction operations, the Contractor shall place them in temporary locations so that access to them will not be impaired. Prior to final acceptance, boxes shall be placed in their permanent locations as designated by the Engineer and left in as good condition as when found. Boxes or their supports that are damaged through negligence on the part of the Contractor shall be replaced at his expense. The cost of removing and resetting existing boxes shall be included in other pay items of the Contract. New mailboxes designated in the plans shall be paid for in accordance with the provisions of Section 521 of the Specifications.

**SECTION 107—LEGAL RESPONSIBILITIES**

**Section 107.13—Labor and Wages** of the Specifications is amended to add the following:

- (c) **Job Service Offices:** In advance of the Contract starting date, the Contractor may contact the Job Service Office of the Virginia Employment Commission at the nearest location to secure referral of available qualified workers in all occupational categories. The closest office may be obtained by accessing the VEC website at <http://www.vec.virginia.gov> and "clicking" on "VEC Workforce Centers".

**Section 107.14(f) Training** of the Specifications is amended to replace 5 and 6 with the following:

5. If the Contract provides a pay item for trainees, training shall be in accordance with the requirements of Section 518 of the Specifications.

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**Section 107.16(a) Erosion and Siltation** of the Specifications is amended to replace the fourth paragraph with the following:

For projects that disturb 10,000 square feet or greater of land or 2,500 square feet or greater in Tidewater, Virginia, the Contractor shall have within the limits of the project during land disturbance activities, an employee certified by the Department in Erosion and Sediment control who shall inspect erosion and siltation control devices and measures for proper installation and operation and promptly report their findings to the Inspector. Inspections shall include all areas of the site disturbed by construction activity and all off site support facilities covered by the project's Stormwater Pollution Prevention Plan. Inspections shall be conducted at least once every 14 calendar days and within 48 hours following any runoff producing storm event (Note: If an inspection is conducted as a result of a storm event, another inspection is not required for 14 calendar days following provided there are no more runoff producing storm events during the that period). For those areas that have been temporarily stabilized or runoff is unlikely to occur due to winter conditions (e.g., the site is covered with snow or ice or frozen ground exists), inspections shall be conducted at least once a month. Those definable areas where final stabilization has been achieved will not require further inspections provided such areas have been identified in the project's Stormwater Pollution Prevention Plan. Failure of the Contractor to maintain a certified employee within the limits of the project will result in the Engineer suspending work related to any land disturbing activity until such time as a certified employee is present on the project. Failure on the part of the Contractor to maintain appropriate erosion and siltation control devices in a functioning condition may result in the Engineer notifying the Contractor in writing of specific deficiencies. Deficiencies shall be corrected immediately. If the Contractor fails to correct or take appropriate actions to correct the specified deficiencies within 24 hours after receipt of such notification, the Department may do one or more of the following: require the Contractor to suspend work in other areas and concentrate efforts towards correcting the specified deficiencies, withhold payment of monthly progress estimates, or proceed to correct the specified deficiencies and deduct the entire cost of such work from monies due the Contractor. Failure on the part of the Contractor to maintain a Department certified erosion and sediment control employee within the project limits when land disturbance activities are being performed will result in the Engineer suspending work related to any land disturbance activity until such time as the Contractor is in compliance with this requirement.

**Section 107.16(e) Storm Water Pollution Prevention Plan** of the Specifications is replaced with the following:

(e) **Storm Water Pollution Prevention Plan and Virginia Stormwater Management Program General Permit for the Discharge of Stormwater from Construction Activities**

A Stormwater Pollution Prevention Plan (c) identifies potential sources of pollutants which may reasonably be expected to affect the stormwater discharges from the construction site and any off site support areas and describes and ensures implementation of practices which will be used to reduce pollutants in such discharges.

The SWPPP is comprised of, but not limited to, the Erosion and Sediment Control (ESC) Plan, the Stormwater Management (SWM) Plan and related Specifications and Standards contained within all contract documents and shall be required for all land-disturbing activities that disturb 10,000 square feet or greater, or 2,500 square feet or greater in Tidewater, Virginia.

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Land-disturbing activities that disturb one acre or greater, or 2,500 square feet or greater in an area designated as a Chesapeake Bay Preservation Area, require coverage under the Department of Conservation and Recreation's Virginia Stormwater Management Program (VSMP) General Permit for the Discharge of Stormwater from Construction Activities (hereafter referred to as the VSMP Construction Permit). Where applicable, the Department will apply for and retain coverage under the VSMP Construction Permit for those land disturbing activities for which it has contractual control.

The required contents of a SWPPP for those land disturbance activities requiring coverage under the VSMP Construction Permit are found in Section II D of the General Permit section of the VSMP Regulations (4VAC50-60-1170). While a SWPPP is an important component of the VSMP Construction Permit, it is only one of the many requirements that must be addressed in order to be in full compliance with the conditions of the permit.

The Contractor and all other persons that oversee or perform activities covered by the VSMP Construction Permit shall be responsible for reading, understanding, and complying with all of the terms, conditions and requirements of the permit and the project's SWPPP including, but not limited to, the following:

1. Project Implementation Responsibilities

The Contractor shall be responsible for the installation, maintenance, inspection, and, on a daily basis, ensuring the functionality of all erosion and sediment control measures and all other stormwater and pollutant runoff control measures identified within or referenced within the SWPPP, plans, Specifications, permits, and other contract documents.

The Contractor shall take all reasonable steps to prevent or minimize any stormwater or non-stormwater discharge that will have a reasonable likelihood of adversely affecting human health or public and/or private properties.

2. Certification Requirements

In addition to satisfying the personnel certification requirements contained herein, the Contractor shall certify his activities by completing, signing, and submitting Form C-45 VDOT SWPPP Contractor and Subcontractor Certification Statement to the Engineer at least 7 days prior to commencing any project related land-disturbing activities, both on-site and off-site.

3. SWPPP Requirements for Support Facilities

Where not included in the plans, the Contractor shall develop erosion and sediment control plan(s) and stormwater pollution prevention plan(s) for submission and acceptance by the Engineer prior to usage of any on-site or off-site support facilities including but not limited to, borrow and disposal areas, construction and waste material storage areas, equipment and vehicle storage and fueling areas, storage areas for fertilizers or chemicals, sanitary waste facilities and any other areas that may generate a stormwater or non-stormwater discharge directly related to the construction process. Such plans shall document the location and description of potential pollutant sources from these areas and shall include a description of the controls to reduce, prevent and control pollutants from these sources including spill prevention and response. The Contractor shall submit such plans and documentation as specified herein to the Engineer and, upon review and approval, they shall immediately become a component of the project's SWPPP and VSMP Construction Permit (where applicable) and shall be subject to all conditions and requirements of the VSMP Construction Permit (where applicable) and all other contract documents.

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4. Reporting Procedures

a. Inspection Requirements

The Contractor shall be responsible for conducting inspections in accordance with the requirements herein. The Contractor shall document such inspections by completion of Form C-107 (a) and (b), Construction Runoff Control Inspection Form and Continuation Sheet, in strict accordance with the directions contained within the form.

b. Unauthorized Discharge Requirements

The Contractor shall not discharge into state waters sewage, industrial wastes, other wastes or any noxious or deleterious substances nor shall otherwise alter the physical, chemical, or biological properties of such waters that render such waters detrimental for or to domestic use, industrial consumption, recreational or other public uses.

(1) Notification of non-compliant discharges

The Contractor shall immediately notify the Engineer upon the discovery of or potential of any unauthorized, unusual, extraordinary, or non-compliant discharge from the land disturbing activity. Where immediate notification is not possible, such notification shall be not later than 24 hours after said discovery.

(2) Detailed report requirements for non-compliant discharges

The Contractor shall submit to the Engineer within 5 days of the discovery of any actual or potential non-compliant discharge a written report describing details of the discharge to include its volume, location, cause, and any apparent or potential effects on private and/or public properties and state waters or endangerment to public health, as well as steps being taken to eliminate the discharge. A completed Form C-107 (a) and (b) shall be included in such reports.

5. Changes, Deficiencies and Revisions

a. Changes and Deficiencies

The Contractor shall report to the Engineer when any planned physical alterations or additions are made to the land disturbing activity or deficiencies in the project plans or contract documents are discovered that could significantly change the nature or increase the quantity of the pollutants discharged from the land disturbing activity to surface waters.

b. Revisions to the SWPPP

Where site conditions, construction sequencing or scheduling necessitates revisions or modifications to the erosion and sediment control plan or any other component of the SWPPP for the land disturbing activity, such revisions or modifications shall be approved by the Engineer and shall be documented by the Contractor on a designated plan set (Record Set).

Such plans shall be maintained on the project site or at a location convenient to the project site where no on site facilities are available and shall be available for review upon request during normal business working hours.

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**Section 107.21—Size and Weight Limitations** of the Specifications is amended to add the following:

- (d) **Construction Loading of Structures** - In the construction, reconstruction, widening, or repair of bridge, culvert, retaining wall and other similar type structures including approaches, the Contractor shall consider construction loads during the planning and prosecution of the work. If the loading capacity of these type structure(s) is not shown in the contract documents, the Contractor is responsible for contacting the office of the appropriate district bridge engineer to obtain the loading capacity information. Construction loads include but are not limited to the weight of cranes, trucks, other heavy construction or material delivery equipment, as well as the delivery or storage of materials placed on or adjacent to the structure or parts thereof during the various stages (phases) of the work in accordance with the Contractor's proposed work plan. The Contractor shall consider the effect(s) of construction loads on the loading capacity of these type structure(s) in his sequencing of the work and operations, including phase construction. At the Engineer's request the Contractor shall be prepared to discuss or review his proposed operations with the Engineer with regard to construction loads to demonstrate he has taken such into consideration in the planning and execution of the work.

**SECTION 108—PROSECUTION AND PROGRESS OF WORK**

**Section 108.01—Prosecution of the Work** of the Specifications is amended to replace the first paragraph with the following:

The Contractor shall begin work on the Contract within 10 calendar days after the date selected by the Contractor as his Notice to Proceed date or within 10 calendar days after the specific Notice to Proceed date indicated in the Contract, unless otherwise altered or amended by specific language in the Contract or as permitted by the provisions of Section 105.01 or Section 108.02 of the Specifications.

**Section 108.02(b) Holidays** of the Specifications is amended to include the following:

In addition to the Sunday or Holiday work limitations, mobile, short duration, short-term stationary, or intermediate-term stationary temporary traffic control zone (as defined in the *Virginia Work Area Protection Manual*) lane closures on mainline lanes, shoulders, or ramps shall not be performed during the following Holiday time periods without the written permission of the Engineer. Additionally, a long-term stationary temporary traffic control zone (as defined in the *Virginia Work Area Protection Manual*) shall not be initially put in place, adjusted, or removed during the following Holiday time periods without the written permission of the Engineer:

- **January 1:** From Noon on the preceding day until Noon on the following day, except as indicated below.
- **Easter:** As indicated below.
- **Memorial Day:** As indicated below.
- **July 4:** From Noon on the preceding day until Noon on the following day, except as indicated below.
- **Labor Day:** As indicated below.
- **Thanksgiving Day:** From Noon on the Wednesday preceding Thanksgiving Day until Noon on the Monday following Thanksgiving Day.
- **Christmas Day:** From Noon on the preceding day until Noon on the following day, except as indicated below.

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**If the Holiday occurs on a Friday or Saturday:** From Noon on the preceding Thursday to Noon on the following Monday.

**If the Holiday occurs on a Sunday or Monday:** From Noon on the preceding Friday to Noon on the following Tuesday.

**Section 108.04—Determination and Extension of Contract Time Limit** of the Specifications is amended to replace the second paragraph with the following:

With a fixed date contract when contract execution is not within 60 calendar days after the opening of bids, or when the Contractor is unable to commence work because of any failure of the Department, or when the Contractor is delayed because of the fault of the Department, the Contractor will be given an extension of time based on the number of days delayed beyond the 60 calendar days. No time extension will be allowed for a delay in the date of contract execution when the delay is the fault of the Contractor.

**Section 108.04(a) Fixed Date** of the Specifications is amended to add the following after the first paragraph as currently written:

If the Contract identifies a contract-specific Notice to Proceed date and the Contract is not executed by that date, the Contractor will receive an extension of time equal to the number of days between the contract-specific Notice to Proceed date and the eventual date of contract execution. If the Notice to Proceed date is selected by the Contractor and after prior approval the Engineer directs the Contractor not to begin work on that date, the Contractor will receive an extension of time equal to the number of days between the Contractor's selected Notice to Proceed date and the eventual date the Engineer informs the Contractor that he may commence the work.

**Section 108.07—Default of Contract** of the Specifications is amended to replace condition (a) with the following:

- (a) fails to begin the work under the Contract within 10 calendar days after the Contractor's selected Notice to Proceed date, or within 10 calendar days after a contract specific Notice to Proceed date indicated in the Contract, except as otherwise permitted by specific contract language or the provisions of Section 105.01 or Section 108.02 of the Specifications.

**SECTION 109—MEASUREMENT AND PAYMENT**

**Section 109.01—Measurement by Weight** is amended to replace the first paragraph and second paragraph including subparagraphs 1-4 with the following:

- (a) **Measurement by Weight:** Materials that are measured or proportioned by weight shall be weighted on accurate scales as specified in this Section. When material is paid for on a tonnage basis, personnel performing the weighing shall be certified by the Department and shall be bonded to the Commonwealth of Virginia in the amount of \$10,000 for the faithful observance and performance of the duties of the weighperson required herein. The bond shall be executed on a form having the exact wording as the Weighpersons Surety Bond Form furnished by the Department and shall be submitted to the Department prior to the furnishing of the tonnage material.

The Contractor shall have the weighperson perform the following:

1. Furnish a signed weigh ticket for each load that shows the date, load number, plant name, size and type of material, project number, schedule or purchase order number, and the weights specified herein.

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2. Maintain sufficient documentation so that the accumulative tonnage and distribution of each lot of material, by contract, can be readily identified.
3. Submit by the end of the next working day a summary of the number of loads and total weights for each type of material by contract.

**Section 109.01—Measurement by Weight** is also amended to delete the third paragraph.

**Section 109.08(b)—Payment to Sub-Contractors** of the Specifications is amended to replace the second paragraph with the following:

Payment to Sub-Contractors shall be in accordance with the provisions of §2.2-4354 of the *Highway Laws of Virginia*:

The Contractor shall take one of the following two actions within 7 days after receipt of payment from the Department for the subcontractor's portion of the work as shown on the monthly progress estimate:

1. Pay the subcontractor for the proportionate share of the total payment received from the agency attributable to the work performed by the subcontractor under that contract; or
2. Notify the Department and subcontractor, in writing, of his intention to withhold all or a part of the subcontractor's payment with the reason for nonpayment.

The Contractor shall be obligated to pay interest in the amount 1 (one) percent per month on all amounts owed by the Contractor to the subcontractor that remain unpaid after 7 days following receipt by the contractor of payment from the Department for work performed by the subcontractor, except amounts withheld as allowed in section 2. The Contractor shall include in each of its subcontracts a provision requiring each subcontractor to include or otherwise be subject to the same payment and interest requirements with respect to each lower tier subcontractor.

**Section 109.09—Payment For Material On Hand** of the Specifications is replaced with the following:

When requested in writing by the Contractor, payment allowances may be made for material secured for use on the project. Such material payments will be for only those actual quantities identified in the contract, approved work orders, or otherwise **authorized and documented by the Engineer** as required to complete the project and shall be in accordance with the following terms and conditions:

- (a) **Structural Steel or Reinforcing Steel:** An allowance of 100 percent of the cost to the Contractor for structural steel **or reinforcing steel** materials secured for fabrication not to exceed 60 percent of the contract price may be made when such material is delivered to the fabricator and has been adequately identified for exclusive use on the project. **The provisions of this section for steel reinforcement will only apply where the quantity of steel reinforcement is identified as a separate and distinct bid item for payment.** An allowance of 100 percent of the cost to the Contractor for superstructure units and reinforcing steel, not to exceed 90 percent of the contract price, may be made when fabrication is complete. Prior to the granting of such allowances, the materials and fabricated units shall have been tested or certified and found acceptable to the Department and shall have been stored in accordance with the requirements specified herein. Allowances will be based on invoices, bills, or the estimated value as approved by the Engineer and will be subject to the retainage requirements of Section 109.08. **For the purposes of this section fabrication is defined as any manufacturing process such as bending, forming, welding, cutting or coating with paint or anti-corrosive materials which alters, converts, or changes raw material for its use in the permanent finished work.**

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- (b) **Other Materials:** For aggregate, pipe, guardrail, signs and sign assemblies, and other nonperishable material, an allowance of 100 percent of the cost to the Contractor for materials, not to exceed 90 percent of the contract price, may be made when such material is delivered **to the project** and stockpiled or stored in accordance with the requirements specified herein. Prior to the granting of such allowances, the material shall have been tested and found acceptable to the Department. Allowances will be based on invoices, bills, or the estimated value of the material as approved by the Engineer and will be subject to the retainage provisions of Section 109.08.
- (c) **Excluded Items:** No allowance will be made for fuels, form lumber, falsework, temporary structures, or other work that will not become an integral part of the finished construction. **Additionally, no allowance will be made for perishable material such as cement, seed, plants, or fertilizer.**
- (d) **Storage:** Material for which payment allowance is requested shall be stored in an approved manner in areas where damage is not likely to occur. If any of the stored materials are lost or become damaged, the Contractor shall repair or replace them **at no additional cost to the Department. Repair or replacement of such material will not be considered the basis for any extension of contract time.** If payment allowance has been made prior to such damage or loss, the amount so allowed or a proportionate part thereof will be deducted from the next progress estimate payment and withheld until satisfactory repairs or replacement has been made.

When it is determined to be impractical to store materials within the limits of the project, the Engineer may approve storage on private property or, for structural units and reinforcing steel, on the manufacturer's or fabricator's yard. Requests for payment allowance for such **stored** material shall be accompanied by a release from the owner or tenant of such property or yard agreeing to permit the removal of the materials from the property without cost to the Commonwealth.

- (e) **Materials Inventory:** If the Contractor requests a payment allowance for properly stored material, he shall submit a certified and itemized inventory statement to the Engineer no earlier than five days and no later than two days prior to the progress estimate date. The statement shall be submitted on forms furnished by the Department and shall be accompanied by **supplier's or manufacturer's** invoices or other documents that will verify the material's cost. Following the initial submission, the Contractor shall submit to the Engineer a monthly-certified update of the itemized inventory statement within the same time frame. The updated inventory statement shall show additional materials received and stored with invoices or other documents and shall list materials removed from storage since the last certified inventory statement, with appropriate cost data reflecting the change in the inventory. If the Contractor fails to submit the monthly-certified update within the specified time frame, the Engineer will deduct the full amount of the previous statement from the progress estimate.

At the conclusion of the project, the cost of material remaining in storage for which payment allowance has been made will be deducted from the progress estimate.

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SS21402-0908

January 28, 2008

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 214—HYDRAULIC CEMENT**

**SECTION 214—HYDRAULIC CEMENT** of the Specifications is amended as follows:

**Section 214.02(b) Portland cements** is amended by replacing 1. with the following:

1. The SO<sub>3</sub> content as specified in AASHTO M85 will be permitted, provided supporting data specified in AASHTO M85 are submitted to the Department for review and acceptance prior to use of the material.

**Section 214.02(b) Portland cements** is amended by deleting 3., 4., and 5.

**Section 214.02—Detail Requirements** is amended by adding the following:

- (c) **Expansive hydraulic cement** shall conform to the requirements of ASTM C 845 Type K.

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SS21501-0908

January 28, 2008

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 215—HYDRAULIC CEMENT CONCRETE ADMIXTURES**

**SECTION 215—HYDRAULIC CEMENT CONCRETE ADMIXTURES** of the Specifications is amended as follows:

**Section 215.02(g) Fly ash** is replaced with the following:

- (g) **Pozzolan** shall conform to Section 241 of the Specifications.

**Section 215.02—Materials** is amended by adding the following:

- (k) **Metakaolin** shall conform to the requirements of AASHTO M321

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SS21704-0610

April 12, 2010

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 217—HYDRAULIC CEMENT CONCRETE**

**SECTION 217—HYDRAULIC CEMENT CONCRETE** of the Specifications is amended as follows:

**Section 217.02(a) Cementitious Materials** is replaced with the following:

**Cementitious materials** shall be a blend of mineral admixtures and Portland cement or a blended cement. In overlay concretes, expansive hydraulic cement is permitted in lieu of Portland cement. Portland cement (Types I, II, III) blended cements (Type IP, Type IS) or expansive cement (Type K) shall comply with Section 214 of the Specifications. Flyash, ground granulated iron blast-furnace slag (GGBFS), silica fume or metakaolin shall conform to Section 215 of the Specifications. As a portion of the cementitious material, Table 1 lists the minimum percents of specific pozzolans required by mass of the cementitious material depending on the alkali content of the cement. Any other mineral admixture or any other amount or combination of mineral admixtures may be used if approved by the Engineer. As a portion of the cementitious material, the fly ash content shall not exceed 30 percent for Class F, the ground granulated blast-furnace slag content shall not exceed 50 percent and the silica fume content shall not exceed 10 percent unless approved by the Engineer. Class C Flyash or other pozzolans may be used provided the contractor demonstrates that the percent usage of Class C Flyash or other pozzolans have a maximum expansion of 0.15% according to ASTM C227 at 56 days using borosilicate glass as aggregate. Blended cements require no further pozzolan additions to meet minimum pozzolan content to compensate for the alkali-silica reaction.

Up to 7 percent silica fume may be added to all combinations of cementitious materials to reduce early permeability without approval by the Engineer. Other silica fume additions must be approved by the Engineer.

Table 1 – Minimum percent pozzolan required by mass of cementitious material as a portion of the total cementitious materials and are based upon the alkali content of the cement.

	Total Alkalies of Cement is less than or equal to 0.75%	Total Alkalies of Cement is greater than 0.75% and less than or equal to 1.0%
Class F Flyash	20%	25%
GGBF Slag	40%	50%
Silica Fume	7%	10%
Metakaolin	7%	10%

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TABLE II-17 Requirements for Hydraulic Cement Concrete is replaced with the following:

TABLE II-17 Requirements for Hydraulic Cement Concrete		Air Content (percent) <sup>1</sup>	Consistency (in of slump)	Max. Water /Cementitious Mat. (lb. Water/lb. Cement)	Min. Cementitious Content (lb./cu yd)	Min. Grade Aggregate	Nominal Max. Aggregate Size (in)	Design Max. Laboratory Permeability at 28 days - Over tidal water (Coulombs) <sup>5</sup>	Design Max. Laboratory Permeability at 28 Days (Coulombs) <sup>5</sup>	Aggregate Size No. <sup>6</sup>	Design Min. Laboratory Compressive Strength at 28 Days (f'c) (psi)	Class of Concrete
		4 1/2 ± 1 1/2	0-4	0.40	635	A	1	1,500	1,500	57 or 68	5,000 or as specified on the plans	A5 Prestressed and other special designs <sup>2</sup>
		6 1/2 ± 1 1/2	2-4	0.45	635	A	1	2,000	2,500	56 or 57	4,000	A4 General
		7 ± 2	2-5	0.45	635	A	0.5	2,000	2,500	7,8 or 78	4,000	A4 Post & rails
		6 ± 2	1-5	0.49	588	A	1	2,000	3,500	56 or 57	3,000	A3 General
		6 ± 2	0-3	0.49	564	A	1	3,500	3,500	56 or 57	3,000	A3a Paving
		6 ± 2	0-3	0.49	N.A	A	2	3,500	3,500	357	3,000	A3b Paving
		4 ± 2	0-4	0.58	494	B	1	N.A.	N.A.	57	2,200	B2 Massive or lightly Reinforced
		4 ± 2	0-3	0.71	423	B	1	N.A.	N.A.	57	1,500	C1 Massive Unreinforced
		4 ± 2	3-6	0.49	635	A	1	N.A.	N.A.	56 or 57	3,000	T3 Tremie seal
		5 ± 2	4-6	0.40	658	A	0.5	1,500	1,500	7,8 or 78	3,500	Latex hydraulic cement concrete overlay <sup>3</sup>
		6 ± 2	4-7	0.40	658	A	0.5	1,500	1,500	7,8 or 78	5000	Silica fume, silica fume /Class F Fly Ash or silica fume/slag concrete overlay <sup>4</sup>
		6 ± 2	4-7	0.40	658	A	0.5	1,500	1,500	7,8 or 78	4000	Class F Fly Ash or slag overlay

(See next page for notes on TABLE II-17).

(See next page for notes on TABLE II-17).

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----- (TABLE II-17 Notes) -----

- <sup>1</sup> When a high-range water reducer is used, the upper limit for entrained air may be increased by 1% and the slump shall not exceed 7 inches.
- <sup>2</sup> When Class A5 concrete is used as the finishing bridge deck riding surface, or when it is to be covered with asphalt concrete with or without waterproofing, the air content shall be  $5 \frac{1}{2} \pm 1 \frac{1}{2}$  percent.
- <sup>3</sup> The latex modifier content shall be 3.5 gallons per bag of cement. Slump shall be measured approximately 4.5 minutes after discharge from the mixer.
- <sup>4</sup> Silica fume with a minimum of 7% by weight of cementitious material; silica fume with a range of 2.5-5 % shall be combined with Class F Fly Ash in range of 15-20% and minimum cement of 77.5% by weight of cementitious material; silica fume with a range of 2.5-5% shall be combined with Ground Granulated Blast Furnace Slag in the range of 30-35% and a minimum cement of 67.5% by weight of cementitious material.
- <sup>5</sup> The permeability testing does not apply to small bridges identified on the bridge plans and to concrete structures and incidental concrete as described in Sections 219, 232, 302, 415, 502, 504, 506 and 519. Curing and testing of test cylinders for permeability will be in accordance with VTM 112.
- <sup>6</sup> The contractor may use different aggregate sizes or a combination of sizes to increase the coarse aggregate content of the concrete as approved by the Engineer. The maximum size of the coarse aggregate shall not exceed 2.5 inches.

**Note:** With the approval of the Engineer, the Contractor may substitute a higher class of concrete for that specified at the Contractor's expense.

**Section 217.02(b) Formulated latex modifier** is amended by adding the following:

For latex-modified concrete, Type I, Type II, Type III or Type K, cement shall be used without mineral admixtures.

**Section 217.04(a)4. Admixtures** is replaced with the following:

4. **Admixtures** shall be dispensed and used according to the manufacturer's recommendations. They shall be added within a limit of accuracy of 3 percent, by means of an approved, graduated, transparent, measuring device before they are introduced into the mixer. If more than one admixture is to be used, they shall be released in sequence rather than in the same instant. Once established, the sequence of dispensing admixtures shall not be altered. However, when the amount of admixture required to give the specified results deviates appreciably from the manufacturer's recommended dosage, use of the material shall be discontinued.

**Section 217.05—Equipment** is amended to replace the first paragraph with the following:

Equipment and tools necessary for handling materials and performing all parts of the work will be approved by the Engineer and must be in accordance with one of the following procedures:

1. having a current National Ready Mix Concrete Association Plant and Truck Certification, or
2. having a Department approved self-certification program in-place prior to the production of concrete for the Department.

Failure to comply with one or the other of these procedures will result in the concrete production being unapproved and work will not be allowed to proceed.

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**Section 217.05(a) Batching Equipment** is amended to replace the second paragraph with the following:

Scales used for weighing aggregates and cement shall be approved and sealed in accordance with the requirements of Section 109 of the Specifications.

**Section 217.07—Proportioning Concrete Mixtures** is amended to replace the first paragraph with the following:

The Contractor is responsible for having a Certified Concrete Plant Technician available during batching operations, and a Certified Concrete Field Technician shall be present during placing operations.

**Section 217.07—Proportioning Concrete Mixtures** is amended to delete the third paragraph beginning with “**A Certified Concrete Batcher**”.

**Section 217.08—Acceptance** is replaced with the following:

- (a) **Air Consistency Tests:** Air and consistency tests will be performed by the Department prior to discharge of concrete into the forms to ensure that specification requirements are consistently being complied with for each class of concrete. The sample secured for the tests shall be taken after at least two cubic feet of concrete has been discharged from the delivery vehicle. The two cubic feet discharged is not to be used as part of the test sample. Any deviation from sampling and testing procedures must be approved by the Engineer. The Contractor shall provide a receptacle conforming to the requirements of ASTM C31, Section 5.9, for the Department’s use in obtaining the sample. If either determination yields a result that is outside of the allowable range for air content or consistence, the following procedure will be used:
1. The Engineer will immediately perform a recheck determination. If the results confirm the original test results, the load will be rejected.
  2. The Contractor’s representative will be immediately informed of the test results.
  3. The Contractor’s representative shall notify the producer of the test results through a pre-established means of communication.

The Engineer may perform any additional tests deemed necessary and reject all remaining material that fails the tests.

Entrained air content will be determined in accordance with the requirements of ASTM C231 or ASTM C173. Acceptance or rejection will be based on the results obtained from these tests.

In general, a mixture that contains the minimum amount of water consistent with the required workability shall be used. Consistency will be determined in accordance with the requirements of ASTM C143. Adding cement to loads previously rejected for excessive water content or consistency will not be permitted.

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- (b) **Strength Tests:** The 28-day compressive strengths ( $f'_c$ ) specified in Table II-17 are the strengths used in the design calculations. The Engineer will verify design strengths by tests made during the progress of the work in accordance with the requirements of ASTM C31 (Standard Practice for Making and Curing Concrete Test Specimens in the Field) and ASTM C39 (Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens) with the exception that the fresh concrete sample used for testing is to be secured after at least two cubic feet has been discharged from the delivery vehicle. The two cubic feet discharged is not to be used as part of the test sample. Any deviation from sampling and testing procedures must be pre-approved by the Engineer. The use of ASTM C42 (Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete) will be at the Engineer's discretion. If the 28-day design compressive strength ( $f'_c$ ) test results do not conform to the strength requirements specified in Table II-17, immediate steps shall be taken to adjust the mixture design. In addition, the Engineer may require removal of or corrective measures be applied to any concrete that does not meet the requirements of Table II-17. If the concrete cylinder strength,  $f'_{cyl}$ , is less than the specified compressive strength found in Table II-17, the criteria in Table II-17A shall apply:

**Table II – 17A Price Reduction or Action Taken due to  $f'_{cyl}$  not meeting the specification value  $f'_c$  listed in Table II-17**

Condition	Concrete is a Pay Item	Concrete is <u>Not</u> a Pay Item
$f'_{cyl}$ is greater than or equal to 98% $f'_c$	A	A
$f'_{cyl}$ is greater than or equal to 90% $f'_c$ and less than 98% $f'_c$	B	C
$f'_{cyl}$ is less than 90% $f'_c$	D	D
$f'_{cyl}$ is not available due to the Contractor's inappropriate handling and storage of specimens in accordance with ASTM C31	D	D

$f'_c$  is the 28-day design compressive strength found in Table II-17.

$f'_{cyl}$  is the actual average tested strength of the standard-cured concrete cylinder made and tested in accordance with ASTM C31 and ASTM C39.

A = full payment

B = pay reduction =  $[(f'_c - f'_{cyl})/f'_c] \times$  contract unit price for concrete per  $yd^3 \times$  number of  $yds^3$  the concrete represents] or \$500, whichever is greater.

C = pay reduction =  $[(f'_c - f'_{cyl})/f'_c] \times 5 \times$  Contractor's invoice price for concrete per  $yd^3 \times$  number of  $yds^3$  the concrete represents] or \$500, whichever is greater.

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D = The Contractor shall submit an investigative plan stamped by a Virginia-licensed Professional Engineer outlining how the Contractor shall demonstrate that the in-place concrete meets the structural strength requirements of the design. For barriers, parapets, railings, etc., no reduction in concrete strength below  $0.9f'_c$  shall be allowed. For all other applications, the investigative plan must be approved by the Department's Engineer prior to the execution of the investigation. All costs associated with this investigation shall be borne by the Contractor. After the investigation is completed, a report shall be submitted to the Engineer showing the results of the analysis, testing and conclusions of the Virginia-licensed Professional Engineer and recommendations for action proposed by the Contractor to be taken with the concrete that did not meet the strength requirements. The Department retains all rights to determine if the action proposed with regard to the concrete in question is acceptable. If the Department concurs with the proposed action and the concrete meets the structural strength requirements of the design and remains in place, any price reduction will be taken by Method B if the concrete is a pay item or Method C if the concrete is not a pay item. If the concrete does not meet the structural requirements of the design, the concrete shall be removed and replaced at no cost to the Department. The maximum penalty assessed for low strength concrete left in place will be 10% as specified in Table II-17A not including the cost of the investigation and any corrective measures taken by the Contractor.

No calculated penalty less than \$500 will be assessed. The Contractor shall have the right to remove and replace concrete failing to meet specifications at the Contractor's cost.

Before concrete is placed, the Contractor shall provide a storage chamber at his expense for temporary storage of the Department's concrete cylinders. The contractor shall be responsible for maintaining the chamber such that the concrete test cylinders are kept in a continuously moist condition and within a temperature range of 60 degrees F to 80 degrees F. The chamber shall be equipped with a continuously recording thermometer accurate to  $\pm 2$  degrees F for the duration of concrete cylinder curing. The chamber shall be located in an area where the test cylinders will not be subject to vibration and shall be of sufficient size or number to store, without crowding or wedging, the required number of test cylinders as determined by the Contractor based on his plan of operations. Location of the chamber is subject to approval by the Engineer.

When use of high-early-strength hydraulic cement concrete is required, it shall conform to the requirements specified in Table II-17 except that the 28-day strength shall be obtained in 7 days. Up to 800 pounds per cubic yard of Type I, Type II or Type III cement may be used to produce high-early-strength concrete.

- (c) **Concrete Temperature** shall be measured in accordance with the requirements of ASTM C1064.

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(d) **Quality Assurance** for Low Permeability Concrete:

**General:**

At least two trial batches, using job materials, with permissible combination of cementitious materials shall be prepared, and test specimens shall be cast by the Contractor and tested by the Department for permeability and strength at least a month before the field application. The permeability samples shall be cylindrical specimens with a 4-inch diameter and at least 4-inches in length. Cylinders will be tested at 28 days in accordance with VTM 112. The test value shall be the result of the average values of tests on two specimens from each batch. Permeability values obtained from trial batches shall be 500 coulombs below the maximum values specified in Table II-17 of the Specifications to be acceptable.

**Acceptance Tests:**

For each set of cylinders made for compressive strength tests, two additional cylinders shall be made for the permeability test. The Department will be responsible for making and testing all permeability test specimens.

If the average permeability test result is equal to or less than the value for the specified class of concrete in Table II-17, then full payment will be made for the lot the average permeability test result represents. However, if the average permeability test result exceeds the coulomb value in Table II-17, payment for that lot of concrete shall be reduced by 0.005 percent for each coulomb above the coulomb value in Table II-17 multiplied by the bid item cost of the concrete times the number of cubic yards or cubic meters of concrete in the lot. The reduction in price will not exceed 5 percent of the bid price of the concrete. Any concrete with a coulomb value that exceeds the maximum required in Table II-17 by 1000 coulomb will be rejected. However, bridge deck concrete with any coulomb value exceeding the maximum required by over 1000 coulomb may be accepted by the Engineer at 95 percent of the bid price if the concrete in question has the required strength and meets other specification requirements, and the Contractor applies, at his own expense, an approved epoxy concrete overlay to the top of the entire deck. In such case deck grooving will not be required. Epoxy overlays over latex overlays will not be permitted. The adjustment to the roadway grade shall be made as required by the Engineer at the Contractor's expense.

Similarly, concrete in abutments and pier caps with coulomb value exceeding the maximum required in Table II-17, by more than 1000 coulomb may be accepted at 95 percent of the bid price if it has the required strength and meets other specification requirements, and the Contractor applies at his own expense, one coat of Type EP-3B and one coat of EP-3T in conformance with the requirements of Section 243.02 of the Specifications, on top of the pier cap or abutment seat.

**Section 217.09(b) Ready Mixed Concrete** is amended to replace the second paragraph with the following:

Each load of transit or shrink-mixed concrete shall be accompanied by Form TL-28 signed by the VDOT Certified Concrete Field Technician or a designated company representative working under the direction of the VDOT Certified Concrete Field Technician. The form shall be delivered to the Inspector at the site of the work. Loads that do not carry such information or that do not arrive in satisfactory condition shall not be used.

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**Section 217.09(b) Ready-Mixed Concrete** is amended to replace the fourth paragraph and the table with the following:

Each batch of concrete shall be delivered to the site of work and discharged within 90 minutes of the time the cement is introduced into the mixture unless approved otherwise by the Engineer.

**Section 217.09(b)1. Transit mixing** is amended to replace the first paragraph with the following:

1. **Transit mixing:** Concrete shall be mixed in a truck mixer. Mixing shall begin immediately after all ingredients are in the mixer and shall continue for at least 70 revolutions of the drum or blades at the rate of at least 14 but no more than 20 revolutions per minute.

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SS22401-0908

November 15, 2007

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 224—CASTINGS**

**SECTION 224—CASTINGS** of the Specifications is amended as follows:

**Section 224.02—Materials** is amended as follows:

The following is added as the first paragraph:

All casting suppliers/manufacturers shall have an approved QA/QC plan on file with the Department. Junction boxes that are to be installed within that portion of the roadway not protected by a guardrail or barrier shall be designed in accordance with the requirements of AASHTO M306 and M105, Class 35B.

**Section 224.02(b)** is replaced with the following:

- (b) **Gray iron castings** used in that portion of the roadway not protected by a guardrail or barrier shall conform to the requirements of AASHTO M306 and M105, Class 35B. All other castings shall conform to AASHTO M105, Class 35B.

**Section 224.02(c)** is replaced with the following:

- (c) **Ductile iron castings** used in that portion of the roadway not protected by a guardrail or barrier shall conform to AASHTO M306. All other ductile iron castings shall conform to ASTM A536, Grade 60-40-18.

**Section 224.03—Detail Requirements** is replaced with the following:

If castings are supplied from materials conforming to sections 224.02 (a), (d) and (e), all tolerances and workmanship requirements for castings shall conform to AASHTO M306. If used in that portion of the roadway not protected by a guardrail or barrier, the load testing shall conform to the requirements of AASHTO M306. When the alternate load test is used, test bars shall be present and fully identifiable with regard to the casting lot. Each casting in a lot must have the same markings as all of the other castings in the lot; if not, each group of castings with the same markings within the original lot, becomes a new lot.

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

SS23802-0609

March 4, 2008

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 238—ELECTRICAL AND SIGNALS COMPONENTS**

**SECTION 238 ELECTRICAL AND SIGNAL COMPONENTS** of the Specifications is amended as follows:

**Section 238.02(f) Electrical and Signal Junction Boxes** is replaced with following:

(f) **Electrical and Signal Junction Boxes:**

Boxes, frames and covers shall be water resistant. Covers shall be secured with stainless steel bolts and fasteners. Covers shall be flush with surface of the junction box and not protrude above the top of the junction box flange.

Junction box bolt attachment holes shall be drilled through to prevent debris from collecting in the threaded bolt holes.

Junction boxes shall be tested and certified by an independent testing laboratory as meeting the requirements indicated herein for approval for use. Independent testing laboratory shall be approved by VDOT Materials Division prior to testing. The Contractor shall furnish the Engineer documentation of such test results.

Testing reports shall provide complete test results for the type of design testing indicated for the respective type of junction box.

**Junction Boxes for deliberate traffic in the roadway applications:**

- Concrete shall conform to the requirements of Section 217 and shall be designed to meet the provisions of AASHTO's *Standard Specifications for Highway Bridges for HS20* loading. Concrete shall have a design minimum compressive strength of 4000 psi.
- Gray Iron frame and covers shall conform to the requirements of Section 224.

**Junction Boxes for off roadway applications:**

- Shall conform to the requirements of ANSI/SCTE 77 2007 and tier 15 loading. Boxes shall be open bottom.
- Shall be Polymer concrete with straight sides or Polymer concrete with flared or straight fiberglass sides.
- Other materials may be submitted for the sidewalls provided they conform to the requirements of ANSI/SCTE 77 2007 and tier 15 loading.

**Junction Boxes frames and covers for bridge structures encasements shall be one of the following types:**

1. Steel castings conforming to the requirements of Section 224, galvanized inside and out.
2. Welded sheet steel having a thickness of at least 3/16 inch or 7 gage, galvanized inside and out.
3. Polymer concrete with fiberglass sides or all polymer concrete.

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**CONTRACT ID. NO.: C00097026T11**

**Section 238.02(h)6.f. Light Emitting Diode (LED) traffic signal head sections** is amended to replace the third paragraph with the following:

LED arrow traffic signal modules shall conform to the requirements of the *ITE Vehicle Traffic Control Signal Heads – Light Emitting Diode Vehicle Arrow Traffic* issued April 3, 2006 (inclusive of any ITE documents that amend, revise and/or supersede it).

And to replace the seventh paragraph with the following:

The LED's shall be mounted and soldered to a printed circuit board. Modules shall be provided with an external in-line fuse or internal fusing of the 120 VAC (+) input. The fuse shall be rated in accordance with the LED module manufacturer. The LED signal module shall utilize the same mounting hardware used to secure the incandescent lens and gasket assembly and shall only require a screwdriver or standard installation tool to complete the mounting.

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

SS51202-0909

June 11, 2009

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 512—MAINTAINING TRAFFIC**

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

**Section 512.03(a) Signs** is amended to replace the last paragraph with the following:

When construction signs are covered to prevent the display of the message, the entire sign shall be covered with silt fence or other materials approved by the Engineer such that no portion of the message side of the sign shall be visible. Plywood shall be used on ground-mounted construction signs only. Attachment methods used to attach the covering material to the signs shall be of a durable construction that will prevent the unintentional detachment of the material from the sign. At no times shall a construction sign and/or post be rotated to prevent the display of the message. In addition, the posts where the signs are being covered shall have two ED-3 Type II delineators mounting vertically on the post below the signs at a height of 4 feet to the top of the topmost delineator. The bottom delineator shall be mounted 6 inches below the top delineator.

**Section 512.03(b) Flagger Service and Pilot Vehicles** is amended to replace the last paragraph with the following:

Portable traffic control signals conforming to the requirements of Section 512.03(h)2 of the Specifications may be used in lieu of flagger service when specified or approved by the Regional Traffic Engineer. When portable traffic control signals are used in lieu of flagger service, the portable traffic control signals will be measured and paid for separately.

**Section 512.03(e)b. Group 2 devices** is amended to replace the first paragraph with the following:

- b. **Group 2 devices** shall be drums or vertical panels. Drums shall be round, or partially round with no more than one flat side; made from plastic; have a minimum height of 36 inches, have a cross-sectional width no less than 18 inches in any direction; and conform to the requirements of the *Virginia Work Area Protection Manual*. Drums shall be designed to allow for separation of ballast and drum upon vehicular impact but not from wind and vacuum created by passing vehicles. Drums of two-piece design, i.e., drum and associated base, shall utilize sufficient amounts of enclosed sand at the base in accordance with the manufacturer's recommendations to provide stable drum support. The base shall be not greater than 5 inches in height. Two-piece drums may also utilize a flared drum foundation and collar of not more than 5 inches in height and of suitable shape and weight to provide stable support. One-piece drums may be used provided they comply with these above requirements.

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

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

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

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

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

**Section 512.04 Measurement and Payment** is amended to replace the pay item and corresponding pay unit for “**Eradication of existing pavement markings**” with the following:

**Eradication of existing pavement markings** will be measured in linear feet of a 6-inch width or portion thereof as specified herein. Widths that exceed a 6-inch increment by more than 1/2 inch will be measured as the next 6-inch increment. Measurement and payment for eradication of existing pavement markings specified herein shall be limited to linear pavement line markings. Eradication of existing pavement markings will be paid for at the contract unit price per linear foot. This price shall include removing linear pavement line markings and disposing of residue.

**Eradication of existing nonlinear pavement markings** will be measured in square feet based on a theoretical box defined by the outermost limits of the nonlinear pavement marking. Nonlinear pavement markings shall include but not be limited to stop bars, arrows, images and messages. Eradication of existing nonlinear pavement markings will be paid for at the contract unit price per square foot. This price shall include removing nonlinear pavement markings and disposing of residue.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Eradication of existing pavement marking	Linear foot
Eradication of existing nonlinear pavement marking	Square foot

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**CONTRACT ID. NO.: C00097026T11**

SS70301-0609

January 6, 2009

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 703—TRAFFIC SIGNALS**

**SECTION 703—TRAFFIC SIGNALS** of the Specifications is amended as follows:

**Section 703.02—Equipment** is amended as follows:

**Section 703.02(g)—Detectors** is amended to delete 1. Magnetic detectors and 2. Magnetic detector amplifiers.

**Section 703.03—Procedures** is amended as follows:

**Section 703.03(e) Installing signal heads** is amended to replace the last sentence of the second paragraph with the following:

Joints shall be rendered weatherproof by an approved method.

**Section 703.03(g)1.—Magnetic Detectors** is deleted.

**Section 703.04—Measurement and Payment** is amended as follows:

**Section 703.04—Measurement and Payment** is amended to delete the sixth paragraph, **Magnetic detector sensing elements** and the fourteenth paragraph, **Cable terminal enclosures**.

**Section 703.04—Measurement and Payment** is amended to include the following:

**Pedestrian actuation** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include pedestrian pushbutton, fittings, sign(s), conduit, conduit when required, supplementary grounding electrode, grounding conductor, and concrete foundation when required.

**Flashing beacon** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include galvanized post, conduit, concrete foundation, grounding electrode, ground conductor, signal heads, breakaway connectors, sign panels and mounting hardware.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Pedestrian actuation (Standard)	Each
Flashing beacon (Standard)	Each

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**CONTRACT ID. NO.: C00097026T11**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**REMOVE, RELOCATE, REFURBISH, MODIFY AND INSTALL EXISTING  
SIGNAL EQUIPMENT**

June 24, 2002

**I. DESCRIPTION:**

This work shall consist of removing, relocating, refurbishing, modifying and installing existing/furnished signal equipment as shown on the plans and directed by the Engineer.

**II. MATERIALS:**

Paint shall conform to the following:

1. Aluminum paint shall conform to Section 231.03(e) of the Specifications.
2. Black paint shall conform to Section 231.03(i) of the Specifications.
3. Yellow paint shall conform to Federal Specifications for Federal Yellow enamel.
4. Other paints shall equal or exceed the specifications of the paint currently used by the Department for that purpose. The Engineer will furnish the Contractor the manufacturer's name and color that was used on existing signal equipment.

**III. CONSTRUCTION:**

**Remove, Relocate, Modify or Install Existing/furnished Signal Equipment** - Removal, relocation, modification or installation of existing/furnished signal equipment will be paid for under the following pay items in accordance with Section 510. Existing poles, controllers and cabinets (including auxiliary equipment), signal head sections, hanger assemblies, tether attachments and backplates shall be delivered to the VDOT or Municipal location as directed by the Engineer. The Contractor shall give at least 48 hours notice prior to delivering such equipment. Underground items such as conduit and conductors may be abandoned and in ground items such as foundations, manholes and junction boxes shall be removed to a point at least 2-feet below finished grade.

**Remove Existing Pole** - This pay item shall consist of the removal of the pole, mast arm, span wire, tether wire, signs and conductor cables.

**Remove Existing Foundation** - This pay item shall consist of the removal of the foundation and anchor bolts and restoration of the disturbed area.

**Remove Existing Signal Head** - This pay item shall consist of the removal of a traffic signal head or pedestrian signal head and conductor cables. Signal head is defined as an arrangement of signal head sections, hanger assembly and tether assembly to form one complete assembly.

**Remove Existing Controller** - This pay item shall consist of the removal of the controller, cabinet and all auxiliary equipment within the cabinet.

**Remove Existing Manhole/Junction Box** - This pay item shall consist of the removal of manholes and junction boxes and the restoration of the disturbed area.

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**Relocate Existing Signal Head** - This pay item shall include the removal of existing signal cable and relocation of traffic signal head. Traffic signal head is defined as an arrangement of traffic signal head sections, hanger assembly and tether assembly to form one complete assembly.

**Relocate Existing Controller** - This pay item shall include the relocation of the controller, cabinet and all auxiliary equipment within the cabinet.

**Modify Existing Controller Cabinet** - This pay item shall consist of the removal of the existing controller, existing auxiliary panel(s) and wiring used with the existing controller auxiliary connector(s); and furnishing and installing removable, noncorrosive metal auxiliary panel(s) (13 gage minimum) with terminals wired for the auxiliary connector(s) functions of the brand and model of controller being installed.

**Refurbish Existing Pole** - This work shall consist of cleaning and painting existing poles retained for use in signal modification work. The poles shall be painted with two coats of paint of the same color as existing unless otherwise directed by the Engineer.

**Install Loop Detector Amplifier** - This work shall consist of furnishing and installing loop detector harnesses and installing detector amplifier(s) furnished by the Department.

**Install 12" Signal Head, LED** - This work shall consist of installing LED signal head furnished by the Department and making all necessary wire connections

**IV. MEASUREMENT AND PAYMENT:**

Refurbish existing pole will be measured in units of each and will be paid for at the contract unit price per each. This price shall include cleaning and painting.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Refurbish Existing Pole	Each

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**REGIONAL TRAFFIC SIGNAL WORK**

September 13, 2010

- I. DESCRIPTION** - This work shall consist of furnishing sufficient labor and equipment and maintaining adequate material on hand to respond to the Department's need for timely completion of traffic signal work in one or more of the Department's Construction Districts in accordance with plans, sketches, Specifications and the provisions herein.

Work within each location as referred to hereinafter shall consist of modification to existing signals or equipment; installation of new signals or equipment; or, a combination of both.

- II. MATERIAL** - The Contractor shall submit all shop drawings including design calculations, catalog cuts, pre-approval items and materials certifications to the Department within 20 calendar days after award of contract, which shall include a sample controller and cabinet of each type, fully wired, for the Engineer's review. The samples will be returned to the Contractor after the Engineer's review.

The Contractor shall maintain enough material for two intersections at one time. At the completion of the project, the Department will compensate the Contractor for remaining material on hand in accordance with Section 109.09 of the Specifications, limited to a maximum of 2 Type I controllers and cabinets, 1 Type II controllers, 2 Type I mast arm poles, 2 Type II mast arm poles, 1 Type III mast arm poles, 1 Type IV mast arm poles, 1, and 1 of each size mast arm.

When the contract specifies an item "Install \_\_\_\_\_", the Contractor shall furnish all other items necessary to complete the installation other than the primary item identified. All items required to complete the installation and not covered by a contract bid item shall be included in the price bid for "Install \_\_\_\_\_".

Equipment furnished by the Department to be installed by the Contractor shall be picked up by the Contractor at the Department's Staunton District Signal Shop is being performed between the hours of 8:00 a.m. and 3:30 p.m. Monday through Friday. The Contractor shall notify the Department at least 24 hours prior to picking up equipment.

Equipment supplied by a municipality to be installed by the Contractor shall be picked up at the storage facility within the municipality.

- III. PROSECUTION OF WORK** - Section 108.01 of the Specifications is replaced by the following:

No work will be released until all shop drawings, including design calculations, catalog cuts, pre-approval items, materials certifications and a cabinet of each type, fully wired has been submitted, reviewed and approved by the Engineer.

The Engineer will notify the Contractor when each location is released for signal work.

The Contractor shall be prepared to begin work as released by the Department no later than 90 calendar days after award of contract.

Thereafter, the Contractor shall begin work on each location released immediately upon notification by the Engineer; however, the Contractor will not be required to work on more than four locations at any one time.

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Once work begins on a location, it shall be continuously prosecuted to completion. Each intersection shall be defined as a location except for installations involving spread spectrum radio where the complete system shall be defined as a location. The work in each location shall be completed within 40 calendar days of notification. The Contractor shall be capable of working on 4 locations simultaneously. In the event the Engineer notifies the Contractor of additional locations, the time limit for each such additional location shall begin upon completion of work under way or expiration of the time limit for each previously released location, whichever is earlier.

In the event the Contractor has completed all previously released work prior to notification of an additional location, the 40 day time will not begin until the tenth calendar day after the notification or when the Contractor begins work whichever is earlier.

**IV. LIQUIDATED DAMAGES** - Section 108.06 of the Specifications is replaced by the following:

In the event work on a location is not completed within 50 calendar days as stated herein, the Contractor will be assessed liquidated damages in the amount of \$100 per calendar day beyond 40 calendar days that each location is not completed. Damages will be assessed per each incomplete location regardless of the number. It is the intent of this provision that damages run concurrently if assessed.

**V. AS BUILT SKETCHES** - Prior to acceptance of each location by the Engineer, the Contractor shall submit an as built sketch showing locations and offset distances for underground installations as installed by the Contractor. Sketches shall be prepared and submitted in the format approved by the Engineer. Locations and offset distances for underground installations shall be within 6 inches of their actual location.

**VI. PARTIAL PAYMENT** - Section 109.08 of the Specifications is amended as follows:

The reference to limiting partial payments to \$500 or more is deleted and all partial payments due the Contractor each month will be vouchered for payment unless otherwise mutually agreed to.

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VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**ROADSIDE DEVELOPMENT AND EROSION CONTROL**

March 13, 2002

**I. DESCRIPTION:**

This work shall consist of providing erosion and siltation control for areas disturbed by excavation, trenching, grading or construction operations in accordance with this provision, *Virginia Erosion and Sediment Control Law, Regulations and Certification Regulations* and as directed by the Engineer.

**II. MATERIALS:**

Silt fence shall be in accordance with Section 245 of the Specifications.

Seed shall be in accordance with Section 244 of the Specifications. The second sentence of the first paragraph of Section 244.02 (c) is deleted.

Fertilizer shall be in accordance with Section 244 of the Specifications.

Mulch shall be in accordance with Section 244 of the Specifications.

**III. PROCEDURES;**

Prior to commencing excavation or grading operations the Engineer will review the area and direct the Contractor when and where any required erosion and siltation control devices shall be installed. All temporary silt fence specified will be measured and paid for in accordance with Section 303 of the Road and Bridge Specifications.

The Contractor shall exercise care when performing open trench or foundation excavations, the excavated material shall be confined along the open trench or foundation and all excavated material shall be used as backfill or removed from the construction site at the end of the day. Disposal of unsuitable material shall be in accordance with Section 106 of the Specifications. In the event the Contractor does not use the material as backfill or remove the material from the site at the end of the day, the Contractor shall install temporary silt fence at no additional cost to the Department to prevent erosion.

The Contractor shall restore and seed areas disturbed by excavation, grading, or construction operations. Seeding shall be in accordance with Section 603 of the Specifications with the following seed mixes at the listed rates per acre:

<b>Bristol, Culpeper, Fredericksburg, Lynchburg, Richmond, Salem and Staunton Districts</b>	
<b>FALL – WINTER 9-5 to 4-1</b>	<b>SPRING – SUMMER 4-1 to 9-5</b>
20 lbs. Winter Wheat or Barley (Nurse Crop)	10 lbs. Annual Ryegrass (Nurse Crop)
100 lbs. Tall Fescue	100 lbs. Tall Fescue

Slopes 2:1 or greater – Add 20 pounds of Crownvetch or Sericea Lespedeza to the above mix

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<b>Hampton Roads District</b>	
<b>FALL – WINTER</b> <b>9-5 to 4-1</b>	<b>SPRING – SUMMER</b> <b>4-1 to 9-5</b>
20 lbs. Winter Wheat or Barley (Nurse Crop)	10 lbs. Annual Ryegrass (Nurse Crop)
100 lbs. Tall Fescue	100 lbs. Tall Fescue
50 lbs. Bermuda grass (Unhulled)	50 lbs. Bermuda grass (Hulled)

Slopes 2:1 or greater – Add 20 pounds of Sericea Lespedeza to the above mix

NOTE: Hard Fescue may be substituted for Tall Fescue

Mulch shall be applied at a rate of two-tons per acre in accordance with Section 603 of the Specifications.

Fertilizer shall be 15-30-15 applied at a rate of 600-pounds per acre in accordance with Section 603 of the Specifications.

**IV. MEASUREMENT AND PAYMENT:**

The seeding shall include site preparation, seed, fertilizer, mulching; finishing and maintaining seeded areas until final acceptance, and restoring disturbed areas prior to final acceptance.

This work will not be measured for separate payment but will be included in the price bid for other items of work.

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VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**SPREAD - SPECTRUM RADIO EQUIPMENT**

June 23, 2010

**I. DESCRIPTION**

This work shall consist of furnishing and installing spread - spectrum radio equipment in accordance with this special provision and as shown on the plans or as directed by the Engineer. Spread-spectrum radio equipment shall be used for bi-directional data communications between master and local intersection controllers.

**II. MATERIALS**

- A. Electrical Items** shall conform to the requirements of Section 238 of the Specifications.
- B. Galvanizing** shall conform to the requirements of Section 233 of the Specifications.
- C. Steel** for fabricated items shall conform to the requirements of Section 226 of the Specifications.
- D. Aluminum** for fabricated items shall conform to the requirements of Section 229 of the Specifications.

**III. EQUIPMENT**

- A. Transceivers:** Transceivers shall interface with master and local intersection controllers provided under this contract and conform to the following:
  - FCC part 15.247
  - Frequency range 902-928 MHz
  - Frequency hopping spread-spectrum type modulation
  - 100 milliwatt to 1 watt output power, adjustable in 1 db steps
  - 8 selectable zones each containing 128 frequencies
  - LED status indicators for transmission
  - Standard RS232C data interface with a DB9 & FSK 2 & 4 Wire Connector on the transceiver
  - Data rates of 1200 through 115.2k bps asynchronous
  - Antenna connector on transceiver shall be type RP TNC
  - Transceivers shall be designed to prevent EMI and RFI interference
  - Maximum bit error rate of  $1 \times 10^{-6}$  at -108 dBm
  - Transceivers shall operate from 120 VAC or shall include power supply for conversion of 120 VAC to the transceiver's voltage requirement.
  - Transceivers shall be manufacturer's proven model designed for spread-spectrum communications
  - Transceiver shall operate within a temperature range of -40 degrees to +70 degrees C and 95 per cent relative humidity at 40 degrees C.

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**B. Master/Repeater Antennas:** Master/repeater antennas shall conform to Parts 15.247 and 15.249 of the FCC *Telecommunications Manual* for field strength of emissions, be the manufacturer's proven model and conform to the following:

- Fiberglass, omni directional type
- **10** dBd gain, omni directional pattern or; 9 or 13 dBd gain, Yagi directional antenna
- Frequency Range 902-928 MHz
- Omni mountable for vertical polarization, Yagi mountable for vertical or horizontal polarization
- N" type female connector
- Minimum wind rating of 150 MPH
- Direct DC grounding system
- Stainless steel mounting hardware

**C. Remote Antennas:** Remote antennas shall conform to Parts 15.247 and 15.249 of the FCC *Telecommunications Manual* for field strength of emissions, be the manufacturer's proven model and conform to the following requirements:

- Directional Yagi type with a minimum of **7** elements, including driven element
- 9, 10 or 13 dBd gain
- Frequency range 902-928 MHz
- Mountable for horizontal and vertical polarization
- "N" type female connector
- Stainless steel mounting hardware

**D. Antenna Cable:** Antenna cable shall be flexible type coaxial cable conforming to the following:

- Impedance 50 ohms
- Type LMR 400 (Times Microwave) or approved equal
- Feedline loss of the antenna cables shall be no more than 3dB per fifty feet
- Frequency range 902-928 MHz
- Black polyethylene or equal outer jacket
- Minimum bending radius of 1 inch
- Designed for direct exposure to all weather conditions

**E. Antenna Interface Cable:** Antenna cable connecting surge suppressor to radio shall be "Superflexible" type coaxial conforming to the following:

- Impedance 50 ohms
- RG-58
- Frequency range 902-928 MHz
- Minimum bending radius of 1inch
- Black polyethylene or equal outer jacket
- Maximum length to be 6 feet

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**F. Lightning Protection:** Lightning protection device shall conform to the following:

- Frequency Range 1.5 - 1000 MHz, D.C. blocked
- VSWR 1.5:1 Maximum
- Power Capacity 200 Watts @ 900 MHz
- Insertion loss of less than 0.1 dB @ 900 MHz
- Surge 50kA, 8 x 20 microseconds waveform, 500 joules
- Connectors "N" type female

**G. Software:** Software (two copies) shall be furnished on CD ROMs for use with a standard IBM compatible laptop computer, running Windows XP Professional or greater. Software shall be menu driven, furnished with operating instructions and be future upgradeable at no additional cost. The Contractor shall furnish a standard RS232C cable with DB9 connectors for connection to the computer and the transceivers. Operation of the software on existing Department laptop computers shall be demonstrated by the Contractor and any software and cable problems shall be corrected by the Contractor at no expense to the Department.

Software shall control the following programming and diagnostic parameters:

- Radio system address
- Radio loopback mode
- Radio network address
- Mode - master remote
- Channel
- Hop pattern
- Data interface rate
- Radio model number, serial number and date of manufacture
- Owner's name
- Link check
- Polling check
- Sync check
- RSSI level test

**H. Power Supply** shall include connecting cables for connection to remote transceiver and AC power. Power supply shall conform to the following minimum requirements.

- Input 125 VAC
- Output 13.5 VDC with circuit overload protector
- Completely self contained and designed for shelf mounting
- Power on indicator on front of housing
- Front panel mounted on/off switch
- Completely solid state
- Regulated DC output
- Manufacturers proven model
- UL listed device

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**IV. PROCEDURES**

- A. Transceivers:** The Contractor shall perform a wireless site survey, prior to installing spread-spectrum radio transceivers, connecting cables and other incidentals needed in existing or new traffic control cabinets as indicated by the plans or as directed by the Engineer. Tests shall be performed by the Contractor to determine transceiver system requirements, including signal strength, data transfer capabilities, spectral analyses and repeater locations (if any), and the results shall be submitted to the Engineer for approval prior to the installation of the master, remote and repeater radio transceivers. Only single radio repeaters are to be used for repeater functionality. The Contractor shall install a duplex receptacle (120VAC, 20A) in each cabinet for AC power to the spread-spectrum transceivers. Receptacles shall be wired to the existing 20 amp circuit breaker in accordance with the National Electrical Code.

A spare transceiver fuse (F1) shall be included with each transceiver. Spare fuse shall be placed in a resealable envelope, labeled "spare transceiver fuse" and placed in the waterproof enclosure in the control cabinet.

- B. Antennas:** The Contractor shall install antennas, antenna masts, antenna cables and connectors at each master, repeater and remote radio transceiver location. The Contractor shall review all sites prior to installation and check clearance of all antennas to be installed with overhead power lines. Any location where the antenna will be closer than 10 feet to the primary power line neutrals, the Contractor shall advise the Engineer. At no time shall any antenna be installed that would cause any conflict with distance regulations required by the power company.

Antenna masts shall be mounted on existing steel signal poles closest to the traffic signal controller cabinets. Masts shall be 1½ inch diameter minimum rigid galvanized metal conduit and shall be attached with the same type of band mount brackets required in Standard drawing SM-3 of the *Road and Bridge Standards*. Brackets shall be attached to the top of the pole with the antenna mast positioned horizontally away from the pole to prevent interference with the pole cap and any other attachments. The Contractor shall determine the required number of brackets to properly support the antenna and mast and submit to the Engineer for approval. Bracket hardware shall be galvanized steel or stainless steel. Location and length of the masts shall be determined prior to installation and submitted to the Engineer for approval.

Omni directional or Yagi directional antennas shall be installed at master radio transceiver locations and directional antennas shall be installed at repeater and remote radio transceiver locations. Antennas shall be attached to the antenna mast with antenna manufacturers approved mounting brackets. Remote antennas shall be installed to the antenna masts and oriented such that the antennas point directly towards each respective master/repeater location. Antenna cable shall be attached to the antenna mast with stainless steel self locking straps at the first point of contact between cable and mast and the last point of contact prior to entering pole and on 18 inch centers between those points. The Contractor shall connect all antenna connections and seal all exposed antenna connections with 2 inch wide butyl rubber tape and cover with three overlapping layers of ¾ inch black UV electrical tape for a waterproof seal. Both layers of tape shall extend 2 inches beyond both ends of connector.

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Antenna cables shall be continuous from the antennas to the lightning protection at each location. Antenna lead-in cable shall be run from the lightning protection unit to the transceivers at each location. The length of antenna lead-in cable shall not exceed a maximum of six feet and shall be designed for minimal loss. Antenna cables shall be routed from the traffic signal poles to the controller cabinets through existing spare conduits in pole and cabinet foundations. The Contractor shall connect the existing spare conduit from the pole to the cabinet with the same size conduit at each location prior to installing the antenna cable. Conduit from the pole to the cabinet shall not exceed the antenna cable manufacturer's bending radius or exceed the number of bends. In the event there are not spare conduits in either the pole or cabinet foundation or the bending radius and/or the number of conduit bends exceeds the cable manufacturer's recommendation, the Contractor shall advise the Engineer and submit a recommended alternate installation for the Engineer's approval. Installation of additional conduit in the pole and/or cabinet foundation will be accomplished and paid for in accordance with Section 109.05 of the Specifications. Any cable damaged during installation shall be replaced prior to final acceptance of the project.

When antenna cable lengths are longer than 60 feet the Contractor shall advise the Engineer of such and provide the radio transceiver manufacturer's recommendation for antenna cable for approval prior to installing. Installation of this cable will be accomplished and paid for in accordance with Section 109.05 of the Specifications. Antenna connectors shall be installed in accordance with the manufacturer's instructions for the particular type of connector used. The Contractor shall be responsible for any special tools required for installing the connectors to assure maximum mechanical and electrical reliability.

The Contractor shall be responsible for drilling any hole in the existing or new traffic signal pole for routing cables from the antenna into the pole. Holes in mast arm poles shall be drilled approximately 2 inches from the top of the pole to the top of the hole on the side opposite the mast arm. On mast arm poles where both remote and repeater antennas will be installed, the second hole shall be drilled 90° to the other hole at the same distance from the top of the pole. If slots for the antenna cable do not exist in the strain poles, holes shall be drilled the same as required for mast arm poles except the first hole shall be drilled on the side opposite the span wire. Holes shall be fitted with a protective neoprene grommet and shall be no larger than required to provide a snug fit for the antenna cable. The Contractor shall install silicone sealant between the grommet and the antenna cable to provide a weatherproof seal.

Contractor shall install lightning protection device in traffic signal controller cabinets at each master, remote and repeater radio transceiver location. Lightning protection device shall be installed between the antenna cable and the antenna lead-in cable. Location of lightning protection shall be determined during installation by the Contractor and submitted to the Engineer for approval. Lightning protection shall not interfere with cabinet wiring or traffic control equipment. Lightning protection shall be electrically bonded with a # 6 bare copper conductor to the cabinet ground buss. All connections shall be electrically and mechanically sound.

- C. Equipment Testing:** Contractor shall conduct a VSWR test at each radio transceiver location with a fully configured antenna system. The VSWR shall not exceed 1.5:1 at 900 MHz. The Contractor shall verify all spread-spectrum radio transceiver tests and signal measurements by a factory-authorized technician. Documentation of the measurements shall be submitted to the Engineer prior to final acceptance of the spread-spectrum radio equipment. Testing of the spread - spectrum traffic signal system shall conform to Section 703.03(i) of the Specifications and as indicated herein.

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**VI. MEASUREMENT AND PAYMENT**

**Spread-spectrum radio transceivers** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include transceivers, power supplies, modem splitters, antennas, antenna lead-in cable, lightning protection, grounding equipment, duplex receptacles with wiring, spare transceiver fuse (F1), testing and connecting cables.

**Antenna cable** will be measured in linear feet and will be paid for at the contract unit price per linear foot. This price shall include antenna cable, stainless steel straps, tape, neoprene grommets, silicone sealant and connectors.

**Antenna mast** will be measured in linear feet and will be paid for at the contract unit price per linear foot. This price shall include antenna masts and mounting assemblies.

Payment will be made under:

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Spread-spectrum radio transceiver	Each
Antenna cable	Linear Foot
Antenna mast	Linear Foot

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VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**EMERGENCY PREEMPTION EQUIPMENT**

November 5, 2009

**I. DESCRIPTION**

This work shall consist of furnishing emitters, and furnishing and installing all other emergency preemption equipment in accordance with these specifications and as shown on the plans or as directed by the Engineer.

**II. EQUIPMENT**

Emergency preemption equipment shall be optically activated providing all features and functions as the existing equipment within the Northwest Region emergency preemption system and shall fully interface with that existing equipment. Existing equipment consists of 3M's Model 721 Single Channel - Two Direction Detectors, Model 760 Card Racks, Model 752 Phase Selectors for 1 and 2-way emergency preemption, Model 754 Phase Selectors for 3 and 4-way emergency preemption, Model 575 confirmation lights, Model 596SR Emitters with Switch and Range Control, and appropriate detector panels to interface preemption devices to the Department's controllers.

Conductor cables between the optical detectors and the phase selector(s)/system chassis shall be in accordance with the manufacturer's recommendations. Conductor cables between the confirmation lights and the cabinet shall be a 14/4 conforming to the requirements of Section 238.02(g)2.a. of the Specifications. Transient protection for the cables shall be in accordance with Section 703.02(d) 3b of the Specifications.

Mounting assemblies for the detectors, confirmation lights and emitters shall be fabricated from corrosion resistant materials or shall be galvanized.

**III. PROCEDURES**

Locations of optical detectors shown on plans are approximate; exact locations shall be as required for proper alignment. Installation of all emergency preemption equipment shall be in accordance with the manufacturer's recommendations. Emergency preemption conductor cables shall be permanently identified in accordance with Section 703.03(g) of the Specifications except tags shall indicate preempt detector (preempt confirmation for the 14/2 cable) and the direction of approach. The Contractor shall provide the manufacturer's installation, operational and maintenance manuals for each piece of equipment to the Engineer.

**IV. TESTING**

Initial testing of the emergency preemption system shall be accomplished in the presence of the Regional Construction Engineer or his representative. The Contractor shall contact Regional Construction Engineer 48 hours in advance to arrange system testing. The Department will provide an operator and vehicle equipped with the above emitter for the test to determine if equipment is operating properly and logging. Deficiencies shall be corrected and faulty equipment replaced by the Contractor at no expense to the Department.

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**V. MEASUREMENT AND PAYMENT**

Emergency preemption equipment will be measured in units of each for the number of ways (directions) the system will receive inputs from emitters and will be paid for at the contract unit price per each. This price shall include the detector(s), system chassis, phase selector(s), confirmation light(s), mounting assemblies, relay(s) detector panel(s), cabinet connecting cables, transient protection and all system documentation and testing.

Conductor cables between the optical detectors and the phase selector(s)/system chassis 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 conductors, markings and identifications, electrical tape and connections.

Conductor cables between the confirmation lights and the cabinet will be measured and paid for in accordance with Section 700.05.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Emergency Preemption ([ ] Way) Emergency Preemption Detector Cable	Each Linear Foot

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VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**VIDEO DETECTION**

June 23, 2010

**I. DESCRIPTION**

This work shall consist of furnishing and installing video detection in accordance with this special provision and as shown on the plans or as directed by the Engineer. Video detection shall detect by processing video images and providing detection input for NEMA TS-1, TS-2, and 170 traffic signal controllers.

**II. MATERIALS**

- A. Paint** shall conform to the requirements of Section 231 of the Specifications and shall be applied in accordance with Section 411 of the Specifications except on nonferrous materials where it shall be applied in accordance with the manufacturer's recommendations.
- B. Steel** for fabricated items shall conform to the requirements of Section 226 of the Specifications and shall be fabricated, welded and inspected in accordance with Section 407 of the Specifications.
- C. Aluminum** for fabricated items shall conform to the requirements of Section 229 of the Specifications and shall be fabricated, welded and inspected in accordance with the requirements of Section 407 of the Specifications.
- D. Electrical items** shall conform to the requirements of Section 238 of the Specifications.
- E. Coaxial cable** shall be rated for outdoor use with a copper center conductor and braid or as required by the video equipment manufacturer.
- F. BNC connectors** shall be installed as required by the manufacturer's instructions. Crimping tool shall be ratchet type, designed to provide a complete crimping cycle with the proper sized dye.

**III. EQUIPMENT**

- A. General:** Video detection equipment furnished under this special provision shall be the manufacturers' standard production model. Video detection equipment shall have been in successful operation for a period of at least one year at twelve signalized intersections. The Contractor shall provide the contact person, location, date of installation, and equipment installed to the Engineer upon request for verification.
- B. Environmental Camera Enclosure Housings** shall be constructed of 6061-T6 aluminum and finished with a weatherproof, heat-reflecting paint.

The environmental enclosure shall have a maximum outside diameter (O.D.) of 5 inches, excluding mounting assembly.

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Each enclosure shall be sized to accommodate lens adapters (if necessary). The front of the enclosure shall extend beyond the viewing window or have provisions to do such so as to act as a sun visor and to prevent water runoff into the camera lens. Sunshields shall be supplied and installed on each camera to protect the camera from direct sunlight. The Contractor shall submit details of the camera housing to the Engineer for review and approval prior to ordering housing units.

The housing shall be equipped with a heater, a window defroster, and a thermostat to control both.

The camera enclosure shall be provided with separate, weather-tight connections for video and power cables at the rear of the enclosure. Connectors shall not allow moisture entry.

- C. Camera** shall be Color high or medium resolution. Line lock shall be provided and no interlace jitter or pairing on the viewing monitor shall be discernible. The system shall provide clear, low-bloom and low-light video images at all times, including limited illumination during nighttime hours and during inclement weather.

The camera shall be of solid-state design and conform to the following minimum requirements:

- **Image Sensor -** The image sensor shall be  $\frac{1}{3}$  inch charge-coupled device (CCD) or an approved equivalent
- **Sensitivity -** A useable picture shall be provided with a minimum scene illumination of 0.1 lux with AGC on.
- **Resolution -** 500 line horizontal and 350 lines vertical minimum.
- **Video Signal Output -** Shall conform to EIA RS-170 standard.
- **Output Impedance -** 75 ohms  $\pm$  5 percent
- **Operating Voltage -** 125 VAC, 60 Hz
- **Automatic Gain Control (AGC) -** The switch selectable fixed gain response shall maintain the output level to 90 percent video when the light level on the image sensor falls too low to maintain full video output. The camera shall have an adjustment for the AGC to optimize video out put under varying conditions.
- **Meantime Before Failure -** Meantime before failure shall be a minimum of 20,000 hours.
- **Operating Temperature -** -34 to +50 degrees C at an outdoor ambient humidity of up to 95 percent, non-condensing.

- D. Camera Lens** shall be a variable focal length lens capable of covering the intersection detection zones indicated by the plans. Motorized auto-iris control and neutral density spot filter shall be provided with each lens. The lens mount shall be standard and compatible with the camera. The iris shall automatically close when power is lost or turned off. The Contractor shall submit the type of lens to the Engineer for review and approval prior to ordering housing units.

- E. Video Processor Unit** shall be a capable of processing the number of video inputs specified on the plans.

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The video processor unit shall conform to the environmental requirements of NEMA TS-1 and TS-2 specifications. The processor unit and the video communications unit shall operate from -35 to 74 degrees C at 0 to 95 percent relative humidity, non-condensing. The video processor unit and the video communications unit shall operate from 125 VAC 60 Hz. The processor unit shall be provided with an RS232 port for connection to an external P/C. The processor unit shall detect all licensed vehicles and motorcycles within the camera field of view for each video input. The video processor and the video communications unit shall simultaneously process the required number of video inputs specified on the plans. Each video input shall provide a minimum of 24 detection zones per camera. The processor shall provide functional detection for stop line, presence, and directional detection.

Video processor unit and the video communications unit shall interface with NEMA TS-1, NEMA TS-2 and 170/332 controllers/cabinets and provide controller detector inputs when utilized in those cabinets. Cables, harness connectors and cabinet equipment adapters shall be provided as required to interface the video detection unit in the type of cabinet as required by the plans.

Video detection zones shall be programmable by either menu driven operation using a monitor and programming device or PC with Windows XP Professional. Either method shall display the detection zones per camera for user programming and provide flexible detection zone placement within the camera field of view. Video processor unit shall store detector configurations created by the user and allow user adjustments of the created detection zones. Video detection equipment shall detect vehicle presence in both day and night conditions and in adverse weather conditions and not be affected by shadows from fixed or moving objects within the detection zone.

Video processor unit and the video communications unit shall be provided with video equipment manufacturers' recommended transient suppression. Transient suppression shall be provided within the traffic signal control cabinet. Internally installed devices within the video processor unit will also be allowed. Documentation of the type of transient devices will be required submitted to the Engineer for review and approval prior to ordering housing units.

Video processor unit shall be housed in a durable metal enclosure suitable for shelf mounting in a NEMA TS-1 or TS-2 cabinet or rack mounting in a Model 332 cabinet.

- F. Software:** Video detection manufacturer's software shall be provided for detection zone programming and operation if required for detection programming by the video equipment manufacturer. Software shall be compatible with the Departments current Windows system. One software package shall be provided for each video detection system. Software updates/revisions shall be provided to the Department as updated by the manufacturer at no additional charge for no less than five years.
- G. Video Monitor** - A color monitor or LCD/LED Display for viewing the video output from the video processor unit shall be provided in the controller cabinet irregardless of the programming method utilized by the equipment. Monitor shall have a minimum diagonal measurement of 9". Monitor resolution shall exceed the required camera resolution. Monitor shall be provided with connector and cable for connection to the video processor unit. Monitor shall be provided with front panel mounted controls for contrast, brightness, vertical hold, horizontal hold and power on/off. Monitor shall be provided with 125 VAC power cord. Monitor shall fit on controller shelf.

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**IV. PROCEDURES**

**A. Camera** installations shall be installed utilizing the same type of mast arm band mount brackets required in the Standard Detail SM-3 of the *Road and Bridge Standards for installation on mast arms and* for installation on luminaire arm the bracket and mounting hardware shall be in accordance with manufacturer's recommendations. Cameras shall be mounted at a sufficient height to prevent occlusion from cross traffic between the stop bar and the camera. A six feet maximum length of internally reinforced tube shall be attached to the bracket for camera mounting above the mast arm or luminaire arm. The camera shall be mounted to the top of the tube with the camera manufacturers recommended bracket. Camera bracket shall provide adjustments for both vertical and horizontal positioning for the camera. Camera attachments shall be designed to securely fasten the camera to prevent the camera and extension tube from falling into the path of vehicles and/or becoming loose. Miscellaneous hardware shall be stainless steel or galvanized steel. Camera installation shall be submitted to the Engineer for review and approval. The cameras and associated attachment unit shall be designed to withstand a wind load of 90 MPH with a 30 per cent gust factor.

**B.Coaxial Cable** shall be installed in conduits as indicated by the plans. Coaxial cables shall be continuous from the camera to the control cabinet housing the video processor unit. Splices in the coaxial cable will only be permitted for connection to transient protection devices either within the control cabinet or at the camera. Coaxial cable shall be suitable for exterior use and in direct sunlight.

**C. Conductor Cable** shall be installed in conduits as indicated by the plans. Power cables shall be continuous from the camera to the control cabinet. Power cables shall be 16 AWG minimum, three conductors. Power cable shall suitable for exterior use and in direct sunlight. Power cable shall include connection to camera and connection to 120 VAC power in the control cabinet.

**V. WARRANTY**

The video detection system shall be warranted by the manufacturer to be free of defects in material and workmanship for a period of one year to commence at final acceptance of the traffic signal intersection. The warranty shall cover repair or replacement of any defective system components within 72 hours of notification to the Contractor at no cost to the Department.

**VI. NEMA CERTIFICATION**

The Contractor shall provide certification from an independent laboratory for the NEMA environmental requirements in section 2 of NEMA TS-1 and TS-2. Certification shall be provided to the Engineer with the catalog cut submittals.

**VII. TECHNICAL SUPPORT**

During the warranty period, technical support shall be available from the manufacturer. The Contractor shall provide the name and phone number of the contact person for technical support to the Engineer prior to the beginning of the warranty period.

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**VIII. MEASUREMENT AND PAYMENT**

**Video detection** will be measured in units of each for the number of video inputs specified and will be paid for at the contract unit price per each. This price shall include furnishing and installing the video processor unit, software, programming device (if needed), transient protection, monitor, one-year warranty and technical support.

**Camera** will be measured in units of each and paid for at the contract unit price per each. This price shall include furnishing and installing the camera, lens, environmental housing, mounting bracket, reinforced tubing and hardware and incidentals.

**Coaxial cable** will be measured in units of linear feet and paid for at the contract unit price per linear feet. This price shall include furnishing and installing coaxial cable and BNC connectors.

**16/3 Conductor Cable** will be measured and paid for in accordance with Section 700 of the *Road and Bridge specifications*.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Video Detection (No. of video inputs)	Each
Camera	Each
Coaxial Cable	Linear Foot

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**UNINTERRUPTIBLE POWER SUPPLY**

June 23, 2010

**I. DESCRIPTION**

This work shall consist of furnishing and installing Uninterruptible Power Supply (UPS) for traffic signal control equipment and other communication devices in accordance with this special provision, the National Electrical Code, and as shown on the plans or as directed by the Engineer.

**II. MATERIALS**

- A. Paint** shall conform to the requirements of Section 231 of the Specifications and shall be applied in accordance with Section 411 of the Specifications except on nonferrous materials where it shall be applied in accordance with the manufacturer's recommendations.
- B. Steel** for fabricated items shall conform to the requirements of Section 226 of the Specifications and shall be fabricated, welded and inspected in accordance with Section 407 of the Specifications.
- C. Aluminum** for fabricated items shall conform to the requirements of Section 229 of the Specifications and shall be fabricated, welded and inspected in accordance with the requirements of Section 407 of the Specifications.
- D. Electrical items** shall conform to Sections 238 and 700 of the Specifications.
- E. Concrete** shall be Class A3 conforming to the requirements of Section 217 of the Specifications.
- F. Reinforcing Steel** shall conform to the requirements of Section 223 of the Specifications.
- G. Electrical Grounding** shall be in accordance with Sections 238 and 700 of the Specifications.

**III. EQUIPMENT**

**A. General:**

The UPS system shall be line interactive topology. The UPS shall provide power conditioning and battery backup for clean power to the critical load. The UPS shall protect devices against lightning, spikes, electrical line noise, frequency variations, sag, surges and power failure. The UPS shall be compatible with NEMA TS-1, TS-2, 170 and 2070 traffic signal control equipment.

The UPS system including the batteries shall be installed in a separate cabinet as indicated on the plans. UPS shall be the manufacturer's standard production model. UPS shall be comprised of a solid state electronic devices, battery bank, automatic bypass-transfer circuit, integral maintenance bypass switch and all necessary hardware and connecting wires, and when required a cabinet and cabinet foundation. The system shall include Digital Signal Processing for direct digital control of all UPS control and monitoring functions. UPS shall be fully power factor corrected while operating in battery backup mode. The UPS system, including batteries and necessary hardware, shall be easily installed/replaced without the use of special tools.

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UPS shall be designed to operate continuously at rated capacity in the following modes:

**NORMAL** – The UPS system shall continuously provide conditioned power to the critical load.

**EMERGENCY** – In the event of a utility AC power failure, the UPS shall provide uninterrupted power to the critical load. This transition shall be accomplished with no interruption of power to the critical load from either failure or restoration of utility AC power.

**RECHARGE** – Subsequent to restoration of utility AC power, the UPS shall automatically recharge the battery system. This shall occur without interruption to the critical load.

**BYPASS** – In the event that the UPS must be taken off-line due to an overload condition or UPS failure, the critical load shall be transferred to the bypass source without interruption of power to the critical load. This bypass switch shall only be utilized for automatic emergency transfers. Retransfer from bypass shall be performed automatically in overload conditions. The use of the bypass switch shall not be required during the manual or automatic retransfer process.

**MAINTENANCE BYPASS** – The UPS system shall be equipped with an external maintenance bypass switch (MBS) to allow safe and reliable maintenance of the UPS system. The bypass shall be of the break-before-make, zero-energy type to ensure maximum load reliability and personnel safety.

Operating temperature range for the entire UPS system shall be -40 degrees C to +70 degrees C, 5 to 95 percent relative humidity, non-condensing.

The UPS shall use a temperature-compensated battery charging system. The charging system shall compensate over a range of 2.5 – 6.0 mV/ °C per cell. The temperature sensor shall include sufficient connecting wire between the temperature monitoring circuit and batteries to monitor the battery temperature. Batteries shall not be recharged when battery temperature exceeds 50 degrees C plus or minus 3 degrees C. An integral system to prevent battery from destructive discharge and/or overcharge shall be provided.

The UPS shall have lightning surge protection compliant with IEEE/ANSI C.62.41.

The UPS shall provide alarm communications to the traffic signal controller for the following conditions:

**ON BATTERY** – When the UPS switches from AC line voltage to battery power.

**LOW BATTERY** – When the batteries approach 40 percent of their remaining useful capacity.

**TIMER** – When the UPS has been operating on battery power for a user programmable period of time.

The UPS shall include displays to indicate current battery charge status and conditions, and a battery capacity indicator with readings from 0 to 100 percent. Front panel display(s) shall be provided that indicates the number of times the UPS has been activated and the total number of hours the unit has operated since last being reset. Both the displays shall have a reset function. UPS shall have a DB-9 connector mounted on the front panel for RS232 interface. The system shall come complete with the manufacturer's software installed and connecting cable. UPS software shall be compatible with latest version of Microsoft Windows™. An additional copy of the UPS software on CD-ROM shall be provided to the Engineer at no additional cost.

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- B. Operational:** UPS shall be sized with a minimum load of 1000 watts and sized to provide a minimum of 8 hours of full run-time operation for an intersection comprised of a traffic signal controller cabinet, traffic signal indications and pedestrian signal indications. Traffic signal and pedestrian signal indications are a combination of LED and incandescent indications.

The UPS shall be wired so that the Police Panel power disconnect switch will operate properly (disconnect power to the signal system) even when the signal system is operating on battery power.

The maximum transfer time between the disruption of normal utility line voltage and providing a stabilized inverter line voltage from batteries shall be 60 milliseconds maximum. When normal utility line voltage has been restored, the maximum transfer time between switching from inverter line voltage to utility line voltage shall be a maximum of 60 milliseconds.

UPS shall bypass utility line power whenever the utility line voltage is outside of 95 VAC to 135 VAC ( $\pm 2$  VAC). While operating on battery power the output voltage from the system shall be between 110 VAC and 125 VAC, inclusive; pure sine wave output,  $\leq 3$  percent THD, 60 Hz  $\pm 3$ Hz.

In situations where the utility line voltage drops below 95 VAC or is absent, the UPS shall transfer from utility line power mode to battery backup mode. Once the utility line voltage has been restored to 105 VAC  $\pm 2$  VAC for more than 30 seconds the UPS shall transfer from battery backup mode back to utility line mode.

In situations where the utility line voltage exceeds 135 VAC, the UPS shall transfer from utility line power mode to battery backup mode. Once the utility line voltage has been restored at below 125 VAC  $\pm 2$  VAC for more than 30 seconds the UPS shall transfer from battery backup mode back to utility line mode.

The UPS shall be equipped to prevent a malfunction feedback to the cabinet or to the utility service. In the event of converter/inverter/charger failure, battery failure or complete battery discharge, the power transfer relay shall revert to the NC (de-energized) state, when the utility line power is connected to the cabinet.

- C. Battery System:** Battery system shall be shelf-mount, rack-mount, swing-tray mount or a combination thereof. Shelves, racks, trays and vertical mounting channels shall be heavy duty and have sufficient strength to hold the batteries without deforming, bending or breaking. Batteries shall be easily replaced and commercially available as "off the shelf" items. Batteries shall be 12 VDC, deep cycle, lead-acid gel type. Batteries shall be certified by the manufacturer to operate over a temperature range of  $- 25$  degrees C to  $+ 74$  degrees C. Batteries shall indicate maximum recharge data and recharging cycles. Battery recharge time from protective low cutoff to 80 percent or more of full charge capacity shall not exceed 20 hours. Batteries shall be provided with appropriate interconnect wiring and corrosion resistant mounting trays and or brackets.

Batteries shall be connected in parallel connection, so that the UPS can still operate in case of a battery failure.

Batteries shall be stored in the lowest space within the cabinet. Batteries shall not be stored in direct contact with concrete.

The number and amp-hour rating for the batteries shall be determined by the manufacturer of the system to provide the required voltage/wattage while on battery power for the time period referenced (8-hours).

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**D. Battery Harness:** Battery interconnect wiring shall be via a two-part modular harness.

**Part I** shall be equipped with red (+) and black (-) 12 inch cabling that can be permanently connected to the positive and negative posts of each battery. Each red and black pair shall be terminated into an Anderson-type power connector or equivalent.

**Part II** shall be equipped with the mating Anderson-type power connector for the batteries and a single, insulated power pole style connection to the inverter/charger unit. Harnesses shall be fully insulated and constructed to allow batteries to be quickly and easily connected in any order to ensure proper polarity and circuit configuration.

Power connectors may be either one piece or two-piece. If a two-piece connector is used, a locking pin shall be used to prevent the connection from separating.

The lateral length of the harness between battery connectors shall be a minimum of 12 inches.

All battery interconnect harness wiring shall be UL Style 1015 CSA TEW or Welding Style Cable or equivalent, and shall be of the proper gauge with respect to design current and have a sufficient strand count for flexibility and ease of handling.

All battery terminals shall be automotive style battery top post and terminal wire connectors and will be covered and insulated with molded boots to prevent accidental shorting.

**E. Wiring**

Wiring for the UPS shall be sized in accordance with the NEC and shall conform to the requirements of Sections 238, 700 and 703 of the Specifications.

Wiring panels and terminal blocks shall be neatly finished and clearly and permanently marked with identifications applied by silk screening. Conductors shall be neatly arranged and bundled in groups with cable ties. The bundled conductors shall not obstruct access to other circuits and terminals in the cabinet. A listing, indicating terminal numbers with a description of their use, shall be attached to the cabinet door and overlaid with a clear, plastic covering. Edges of the plastic overlay shall be sealed with a clear exterior grade, waterproofing compound. Unless cable is passing through the cabinet uninterrupted, incoming and outgoing conductors shall have each wire connected to terminal post positions.

**F. Documentation**

The Contractor shall provide five prints of the control circuit diagram. Prints shall be produced from the original diagram and shall be clear and legible. The Contractor shall install two copies of the circuit diagram inside the traffic signal controller cabinet or in the UPS cabinet in the readily accessible water resistant enclosure and shall furnish three additional copies to the Engineer. The Contractor shall provide three sets of the following: equipment list, operation and maintenance manuals, board level schematic diagram and wiring diagrams of the UPS and battery data sheets. One copy of these materials shall be stored in the water resistant enclosure within the traffic signal controller cabinet or the UPS cabinet and two sets provided to the Engineer.

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**G. Cabinet**

The UPS cabinet shall house the batteries, wiring, related equipment, and the UPS, which includes converter/inverter/charger unit, power transfer relay, power management unit, manually operated bypass switch and other control panels and wiring harnesses. The cabinet shall be bolted onto the traffic signal controller cabinet with no less than four high strength bolts. All connections between the UPS cabinet and the traffic signal controller cabinet shall be sealed and weatherproof.

Cabinet for UPS shall be weatherproof and constructed of welded sheet aluminum, 0.125-inch minimum. Cabinet mounting attachments shall be durable, corrosion resistant, compatible with the aluminum of the cabinet or isolated from it and of heavy-duty construction. Cabinets shall be of sufficient size to house batteries, wiring, related equipment, and the UPS, which includes converter/inverter/charger unit, power transfer relay, power management unit, manually operated bypass switch and other control panels and wiring harnesses. The UPS cabinet door shall open away from traffic.

- 1. Doors:** Cabinet doors shall provide full access to the cabinet interior and shall have gaskets to ensure weatherproofing. The door shall be equipped with the Department's standard tumbler lock. Two keys for each cabinet shall be provided to the Engineer. Hinges shall be stainless steel and continuous. Doors shall have a doorstop arrangement that will allow it to be firmly positioned at 90 and 135 degrees,  $\pm 10$  degrees. The locking system for cabinets shall be a three-point draw roller system. Rollers shall be fabricated from nylon with a diameter of at least 8/10 inch. The door opening shall be double flanged on all four sides.

The door shall have a screened and louvered vent design to prevent rain entry, with a standard size furnace vent filter. The filter tray shall be sized to house and secure the filter in place. The screen shall be constructed from at least 0.031-inch aluminum with 1/8-inch diameter openings positioned on 3/16 inch staggered centers. The screen shall be placed on the inlet side of the filter and held in place by the filter or silicone adhesive.

- 2. Interior:** The interior of cabinet shall be of sufficient size to provide adequate ventilation of the equipment housed therein. Cabinet shall contain at least three adjustable shelves or equivalent supports, with enough space to hold UPS, batteries, battery trays and brackets, wiring and related equipment. Vertical mounting channels for the shelves shall be continuous and shall allow for adjustable shelf placement ranging from 5 inches from the bottom to 5 inches from the top of the cabinet. Shelves and vertical mounting channels shall be heavy duty and have sufficient strength to hold the batteries without deforming, bending or breaking. Wiring panels and terminal blocks shall be neatly finished and clearly and permanently marked with identifications applied by silk screening. Conductors shall be neatly arranged and bundled in groups with cable ties. The bundled conductors shall not obstruct access to other circuits and terminals in the cabinet.

A water resistant enclosure to store documentation shall be securely attached to the UPS cabinet with studs welded to the cabinet and nuts. The enclosure shall have non-corrosive metal grommets for use with the studs.

A listing, indicating terminal numbers with a description of their use, shall be attached to the UPS cabinet door and overlaid with a clear, plastic covering. Edges of the plastic overlay shall be sealed with a clear, exterior grade waterproofing compound. Unless cable is passing through the cabinet uninterrupted, incoming and outgoing conductors shall have each wire connected to terminal post positions.

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A screened air exhaust opening under the top overhang shall be provided. One thermostatically controlled vent fan with a screened guard in the top section of the cabinet with a capacity of exhausting at least 100 CFM shall be provided. The thermostat shall be adjustable from 80 degrees F to 130 degrees F. Degree markings shall be indicated on the thermostat in 10-degree increments. The fan shall be AC operated from the same line output of the Manual Bypass Switch that supplies power to the Traffic Signal Control Cabinet. A two position terminal block shall be provided on the fan panel. Proper over current protection shall be provided for the fan circuit.

A fluorescent lamp receptacle, fluorescent lamp (ordering code #F20T12/D), and an ON/OFF door switch shall be located in the cabinet so that it provides unobstructed illumination of the interior of the cabinet. A toggle switch and a momentary switch operated by the door shall be connected inline for operation of the lamp. The lamp toggle switch shall be located adjacent to the fluorescent lamp and labeled "LAMP" with "ON", "OFF" indications. The fluorescent lamp and switches shall be AC operated from the same line output of the Manual Bypass Switch that supplies power to the Traffic Signal Control Cabinet. Proper over current protection shall be provided for the fluorescent lamp circuit.

Wiring for the lamp, fan and other auxiliary equipment shall be connected via terminal blocks.

Wiring from the UPS to the traffic signal controller cabinet shall be accomplished via a conduit passing through the UPS cabinet to the traffic signal controller cabinet.

**IV. PROCEDURES**

When installing UPS in an existing traffic signal controller cabinet location, the Contractor shall notify the District Traffic Engineer a minimum of five days prior to beginning work. The traffic signal shall not be disconnected from utility power unless a representative of the District Traffic Engineer is present and then only during the time of day and day of week designated by the District Traffic Engineer.

Upon completion of the installation, the Contractor shall notify the District Traffic Engineer to arrange demonstration of the UPS. The Contractor shall demonstrate that the UPS is completely operational and shall demonstrate the various features available.

**V. WARRANTY**

The UPS, in its entirety, and batteries shall be warranted for three years from the date of acceptance against defective material, batteries and workmanship.

**VI. MEASUREMENT AND PAYMENT**

**Uninterruptible power supply** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include furnishing and installing converter/inverter/charger, power management unit, transfer switches, bypass switches, switches, two-part modular battery harnesses, temperature sensor, sensor cable, software, DB-9 connecting cable, conductor cables, flexible conductor cables, flexible cables, terminal blocks, power panels, surge protection devices, over current protection devices (fuses/circuit breakers), circuit diagrams, manuals, transient protection devices and warranty. The price shall also include complete integration with the traffic signal control equipment and testing in the presence of the Engineer.

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**Uninterruptible power supply battery(s)** will be paid for in units of each and will be paid for at the contract unit price per each. This price shall include furnishing and installing batteries.

**Uninterruptible power supply cabinet** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include furnishing and installing cabinet, thermostatically controlled fan in the cabinet with a vent, thermostat, switches, air filter, fluorescent lamp receptacle, fluorescent lamp, conductor cables, flexible cables, over current protection devices (fuses/circuit breakers), terminal blocks, power panels, surge protection devices, circuit diagrams, grounding systems, gaskets, bolts, weatherproofing, conduits and fittings.

Payment will be will made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Uninterruptible power supply	Each
Uninterruptible power supply battery(s)	Each
Uninterruptible power supply cabinet	Each

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION  
**SECTION 703 - TRAFFIC SIGNALS**

June 22, 2010

**SECTION 703 - TRAFFIC SIGNALS** of the Specifications is amended as follows:

**Section 703.02 Equipment**, the first paragraph is amended as follows:

Traffic signal controllers, master controllers, auxiliary equipment and flashers for operating flashing beacons furnished by the Contractor shall be certified by the manufacturer as conforming to the requirements of NEMA TS-1 or NEMA TS-2-1992 as applicable and any exceptions and additions stated herein unless otherwise specified.

**Section 703.02 Equipment**, the third paragraph is replaced by the following:

The Department will furnish controller timings including coordination and preemption timings to the Contractor for implementation. The Contractor shall be present for one AM and one PM peak hour period once the intersection is operational to view traffic conditions and fine tune timings to provide for the orderly flow of traffic.

**Section 703.02(a) Traffic Signal Controllers** is replaced by the following:

(a) **Traffic signal controllers** shall conform to the following:

1. **Type I Signal Controllers** shall provide all features and functions as existing controllers in the District's closed loop systems and shall completely interface with the system masters and the office computer closed loop system software. When the controllers are being installed in an isolated situation, or in a system situation utilizing spread-spectrum radio interconnect, the controllers shall contain an additional RS232C communication port. When the controllers are being installed in a system situation utilizing hardwire interconnect, the controllers shall be capable of supporting full communications with the master controller. Existing equipment consists of Signal/Eagle Signal Model EPAC 300 controllers, Model M42 and Eagle EPAC Marc 360, Model M90 master controllers and closed loop software.
2. **Type II Signal Controllers** shall be NEMA TS-2, Type 2 and shall provide all features and functions as existing controllers in the District's closed loop system and shall completely interface with the system masters and the office computer closed loop system software. When the controllers are being installed in an isolated situation, or in a system situation utilizing spread-spectrum radio interconnect, the controllers shall contain an additional RS232C communication port. When the controllers are being installed in a system situation utilizing hardwire interconnect, the controllers shall be capable of supporting full communications with the master controller. Existing equipment consists of Signal/Eagle Signal Model EPAC, Model 52 controllers and closed loop software.

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**Section 703.02(c) Master Controller** is replaced by the following:

**(c) Master controllers shall conform to the following:**

**Master controllers** shall provide all features and functions as existing master controllers in the Staunton and Culpeper District's closed loop systems and shall completely interface with the local controllers and the central office computer closed loop software. Existing equipment consists of Signal/Eagle Signal Model EPAC 300 controllers, Model M42, M52, and Eagle EPAC Marc 360, Model M90 master controllers and closed loop software.

**Section 703.02(d)2. Police Panel** is replaced by the following:

- 2. Police Panel:** The police panel shall be furnished with two toggle switches, each labeled for its purpose. One switch will be used to place the signal in flashing operation and shall not affect the power being supplied to the controller and the conflict monitor. Upon placement of the switch from the automatic position to the flash position, the intersection shall immediately be placed in flashing operation and stop timing shall be applied to the controller. Upon placement of the switch from the flash position to the automatic position, the signals shall immediately be placed in automatic operation in the major street through phase green interval and stop timing to the controller shall be canceled. The second switch shall be used to allow manual operation of the controller phasing. Both toggle switches shall be installed so the normal mode of operation is when the switches are in their "up" position.

**Section 703.02(d) Cabinets**, the second paragraph, first sentence is replaced with the following:

Cabinets shall be 77 inches in height, 44 inches in width, and 24 inches in depth.

Cabinets shall have a rear door providing access to the cabinet back panel. Both the front cabinet door and rear cabinet door will be of the same dimensional size.

Cabinets shall be large enough to provide for ease of maintenance of the controller and auxiliary equipment.

**Section 703.02(d)3. Interior**, the first paragraph, second sentence is amended as follows:

Cabinets shall contain at least three adjustable shelves or equivalent supports with enough space to hold the controller, 20 single channel detectors amplifiers and required auxiliary equipment. Cabinets shall have a full extension sliding drawer with flip up cover attached to the middle shelf suitable for document storage and as a station for a laptop computer. Sliding shelf shall be at least 16 inches in length (left to right), 14 inches in width (front to back), and 1 ½ inches in depth.

The transfer relay shall be mounted within the controller assembly and shall be covered with a recommended manufacturer's cover to prevent accidental contact. Both the AC hot, and AC neutral shall be switched when the relay is energized. When the alternate power source is applied, the relay shall sense this and automatically switch the power source. When the alternate power source is disconnected, the relay shall automatically switch back to the normal power source. All these functions shall take place without the need to throw special switches or breakers, all functions shall take place automatically with the controller assembly.

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**Section 703.02(d)3. Interior**, the third paragraph is amended to include the following:

When exclusive left-turn phasing is being used, the red output from the load switch for the left-turn phase shall not be connected to ground through the resistors.

**Section 703.02(d)3. Interior**, the fifth paragraph, first sentence is replaced by the following:

The Contractor shall provide one reproducible and five blue and white prints of the controller circuit diagram.

**Section 703.02(d)3. Interior**, the seventh paragraph is amended to include the following:

These wires in the detector harnesses shall be permanently identified with a nylon tag attached to the wires. Identifications on the tag shall indicate the phase, and shall be legible and accomplished with permanent ink.

**Section 703.02(d)3. Interior**, the seventh paragraph, second sentence is replaced by the following:

Other AC and DC circuit wiring shall be in accordance with NEMA TS-1 or TS-2 as applicable.

**Section 703.02(d)3. Interior**, the seventh paragraph, third sentence is replaced by the following:

Ribbon cable and printed circuit boards will not be allowed for cabinet wiring in NEMA TS-1 cabinets.

**SECTION 703.02(d)3. INTERIOR** is amended to include the following:

The signal bus shall be connected to the incoming AC+ through a signal bus with an **electronic relay** equal to Payne Engineering Company's #11DZ-1-30-VDOT relay.

**Section 703.02(d)3.a Main AC Power input** is replaced by the following:

- a. **Main AC Power input:** Transient protection for the AC power input shall be connected on the load side of the main AC circuit breaker. Transient protection shall consist of a modular package with a base and socket and matching plug-in transient device. The transient protector shall include LED's for failure indication, and remote sensing output circuitry designed for modem/computer polling remotely. The transient protection shall (1) withstand a 20,000- ampere surge current with an 8x20 microsecond wave form, 20 times at 3 minute intervals between surges without damage to the suppressor; (2) limit the surge voltage to a 2,000-volt peak; and (3) limit follow current to an appropriate level to prevent tripping of the main circuit breaker of the cabinet or enclosure.

**Section 703.02(d)3.c. Loop detector lead-in cable** is amended to delete the first and second sentences.

**Section 703.02(d)4.c.** is amended to include the following:

The panel shall be located on the left side near the front of the cabinet and above the level of the lowest shelf. A preemption test switch with necessary wiring shall be located on this panel.

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**Section 703.02(d)4.f.** is replaced with the following:

The Plexiglas shield shall extend at least to the edges of the power panel. An additional clear Plexiglas shield shall be securely attached with an adhesive to the top edge of the power panel shield. The width of this shield shall be the same as the power panel shield and the depth necessary for the shield to contact the top of the power panel. Incoming wires to the power panel shall be brought in from the side of the panel.

**Section 703.02(d)4.j.** is amended to include the following:

Two thermostatically controlled vent fans with a screen guard in the top section of the cabinet with a capability of exhausting at least 100 CFM per fan. The thermostat shall be adjustable from 80 degrees F to 130 F. Degree markings shall be indicated on the thermostat in 10-degree increments. One thermostat shall control both fans.

**Section 703.02(d)4.o.** is amended to include the following:

The conflict monitor shall provide stored data to the controller to be transmitted to the office desktop computer. Conflict monitor will only be required for NEMA TS-1 cabinets.

**Section 703.02(d)4.s.** is replaced by the following:

- s. 1 or more field wiring terminal(s) for each light circuit plus 25 or more terminals for the common conductors, but not fewer than one for every four signal circuits. Signal common terminals shall be grounded to the cabinet.

**Section 703.02(d)4.t.** is replaced by the following:

- t. 3 toggle switches inside the main cabinet on the cover behind the police panel. One switch will be used to place the signal in flashing operation and shall not affect the power being supplied to the controller and conflict monitor. The cyclic operation of the controller shall not be affected by this switch. Upon placement of the switch from the automatic position to the flash position, the intersection shall immediately be placed in flashing operation. Upon placement of the switch from the flash position to the automatic position, the signals shall immediately be placed in automatic operation in the major street through phase green interval. The second switch shall be used to disconnect power to the controller. The third switch shall be a three position switch with one position being used to apply stop timing to the controller, the second position being the normal position which will apply stop timing to the controller in the event the conflict monitor places the intersection in flash and the third position being a run position which will allow the controller to cycle even when the intersection has been placed in flash by the conflict monitor. Toggle switches shall be installed so the normal mode of operation is when the switches are in their "up" positions.

**Section 703.02(d)4.** is amended to include the following:

- v. NEMA TS-2 cabinets shall include a sixteen channel malfunction management unit (MMU). MMU shall conform to the requirements of NEMA TS-2 Section 4.

**Section 703.02(d)4.** is amended to include the following:

- w. NEMA TS-2 cabinets shall include the required number of Bus Interface Units (BIU's). The BIU's shall conform to the requirements of NEMA TS-2, Section 8.

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**Section 703.02(d)4.** is amended to include the following:

- x. **Detector Racks:** NEMA TS-2 cabinets shall include vehicle detector racks. The configuration for each rack shall be as follows:

One BIU slot

Sixteen channels of NEMA TS-2 type detection (Eight, 2 channel detector cards). The detector rack shall be provided with the two end slots wired for four channel 3M opticom emergency pre-emption cards.

The detector racks shall as a minimum meet the requirements of NEMA TS-2 Section 5.3.4.3 and all other applicable sections of the NEMA Standards Publication No. TS2-1992. The detector frame shall be constructed of aluminum. The frame material shall be of sufficient thickness to prevent bending or flexing when detector or other cards are being inserted or removed. The detector rack shall be designed to fit on a cabinet shelf that is 10 inches deep and shall also accommodate the detector rack power supply.

If one or more printed circuit boards are used in the construction of the detector rack, they shall meet the NEMA requirements for printed circuit boards and the following:

All plated through holes and exposed circuit traces shall be plated with solder. Both sides of the printed circuit board shall be covered with a solder mask material.

The circuit reference designation for all components and the polarity of all capacitors and diodes shall be clearly marked adjacent to the component. Pin 1 for all integrated circuit packages shall be designated on both sides of all printed circuit boards. All electrical mating surfaces shall be gold-plated for the BIU(s) and detector(s). The detector rack inputs and outputs shall interface with cabinet wiring and terminals through a series of paired connectors. One side of the connector shall be mounted on the detector rack and the other side shall be connected on the interface cable. It shall be possible to isolate the detector rack from the cabinet wiring by disconnecting the connections. It shall not be necessary to remove any wires from terminals or to cut any wires to isolate the rack wiring from the cabinet wiring.

**Section 703.02(d)4.** is amended to included the following:

- y. **Grounding:** The grounding system in the NEMA TS-2 cabinet shall be divided into three separate circuits, AC Neutral, Earth Ground, and Logic Ground. These ground circuits shall be connected together as outlined in section 5.4.2.1 of the NEMA TS-2 Standard.

**Section 703.02(e) Signal Heads,** the second paragraph is replaced by the following:

Cast aluminum signal head sections shall be used for all installations,

**Section 703.02(e)3. Standard traffic signal head sections** is replaced by the following:

- 3. **Standard traffic signal head sections** shall conform to the requirements of the ITE Standard for Vehicle Traffic Control Signal Heads and Section 238. Cap visors shall be included on all sections except head assemblies used only to control separate left and right turn lanes shall include tunnel visors on all sections.

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**Section 703.02** is amended to include the following:

(h) **Modems** - These modems are for use for communications between the master controllers or local controllers and the desktop computers. Modems shall have a raw data-transfer speed of 33.6 kbps and shall conform to Microcom Networking Protocol (MNP) classes 2 through 5, and International Telecommunications Union (ITU) V.34, V.42 and V.42bis standards. Modems shall be capable of communicating with 28,800, 14,400, 9600, 2400 and 1200 bps modems and shall automatically adjust the data rate and modulation to accomplish this. Modems shall have auto dial/auto answer features. Modems shall be capable of operation within an operating ambient temperature range from 0 to +40 degrees Celsius, and an operating relative humidity range up to 95 per cent, non-condensing. Modems shall support the Hayes AT Command Set and have at least the following function indicators for identifying modem operation:

- Carrier Detect
- Auto Answer On
- Modem Ready
- Terminal Ready
- Received Data Is Being Sent To The Computer or Received Transmission From Phone Line
- Data Sent From The Computer Was Received By The Modem or Transmission Made To Phone Line

Communications between the master controllers or local controllers and the desktop computers will be accomplished with telephone company owned dial-up lines. The Contractor shall install the cables from the modem to the controller and the telephone interface box. The telephone interface box will be installed by others either in or on the outside of the cabinet. The Contractor shall install transient protection conforming to Section 703.02(d)3b for the cable from the modem to the telephone interface box.

**Section 703.03 (a) Prosecution of Work** is replaced with the following:

(a) **Prosecution of Work:** The Contractor shall not discontinue the operation of an existing signal without the approval of the Engineer. Requests for discontinuance shall be made at least 48 hours in advance.

While modifying or replacing existing traffic signals, the Contractor shall provide necessary traffic controls for maintenance of traffic, as approved by the Engineer. The Contractor shall submit his traffic control plan to the Engineer for approval at least 48 hours in advance of beginning the modification or replacement work. Traffic flow shall be maintained during the modification or replacement. Routine maintenance, such as replacing filters, cleaning lenses, etc. will remain the responsibility of the Department or local municipality. Replacement of faulty lamps is not considered to be routine maintenance.

When the Contractor begins placing new signal equipment in operation, he shall maintain and repair the equipment until final acceptance. When the Contractor begins modifying/replacing existing signal equipment, he shall be responsible for maintaining and repairing all equipment until final acceptance once the controller cabinet has been entered due to the modification/replacement work. If the new equipment, or existing equipment once the Contractor becomes responsible, malfunctions while the Contractor is at the project site, he shall take immediate action to maintain the normal flow of traffic and make necessary repairs as expeditiously as possible that will cause the least interference with traffic.

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The Contractor shall furnish the Engineer with name, phone number, cellular phone number, and pager number of the supervisory employee of his company who will be responsible for repair calls during all hours, including weekends and holidays, when the Contractor is not at the location. The Contractor may authorize a reputable local company to make emergency repairs, subject to the approval of the Engineer. In the event the signal malfunctions, the Contractor shall provide skilled personnel at the site of the malfunction within two hours from time of notification.

Necessary repairs shall be accomplished within five hours from time of notification. The Contractor will be assessed a disincentive of \$100 per hour, or part of an hour, beyond the time requirement for both the repair and response time, up to a maximum of \$1000 per occurrence. Disincentives for the response and repair time will be assessed concurrently beyond five hours if the Contractor's personnel have not arrived at the location. In the event the Contractor fails to make such repairs within the specified time, or the Contractor cannot be reached by the phone or does not return the call to the Department within thirty minutes after being paged, the Department reserves the right to make such repairs in accordance with Section 104. This shall in no way relieve the Contractor's responsibility for maintaining and completing the work. If the Department makes repairs, the maximum amount of disincentive will be assessed.

**Section 703.03(c) Refurbishing Existing Equipment** is replaced by the following:

- (c) **Refurbishing Existing Equipment:** Existing equipment to be retained will not need to be refurbished.

**Section 703.03(e)5. Backplates**, the last sentence is replaced by the following:

Bolts, screws, and washers shall be stainless steel.

**Section 703.03(g)3. Inductive Loop Detectors** is amended to include the following:

3. **Inductive loop detectors shall** be two channel, rack-mounted detectors as applicable. Loop detector amplifiers shall as a minimum meet the requirements of NEMA TS-2 Section 6.5 in its entirety.

The manufacturer of the loop detector amplifier shall provide a certification from an independent testing laboratory that the model furnished complies with NEMA Environmental Standards and test procedures.

**Section 703.03(g)2. Inductive loop detectors**, the third paragraph is amended to include the following:

Megger readings shall be accomplished by the Contractor and recorded on paper for submittal to the Engineer. Each reading shall include information that will allow it to be readily identified to a specific loop installation. A copy of the test results shall be placed in the waterproof enclosure with the cabinet circuit diagram in the cabinet. Testing equipment for conducting these tests shall have been calibrated in accordance with the manufacturer's recommendations. The Contractor shall provide the manufacturer's recommendations along with the calibration documentation to the Engineer for each test unit which will be utilized on this project. This information shall be provided prior to the accomplishment of any megger readings.

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**Section 703.03(h)1. Overhead span wire** is amended to include the following:

Two down guys shall be used with each wood pole unless the Engineer requires additional. Payment for down guys in excess of the two per pole will be measured for separate payment and paid for under Span Wire ½ inch.

**Section 703.03(h)2. Tether wire** is amended to include the following:

All signal heads and signs shall be tethered unless otherwise indicated. Signals and signs shall be tethered in accordance with drawings for Standard TA-1 and SMD-1 & 2, respectively.

**Section 703.04 Measurement and Payment for Controllers** is amended to delete "timing data and training".

**Section 703.04 Measurement and Payment for Controllers** is amended to include the following:

Detector rack, bus interface units, malfunction management units, cabinet power supply

**Section 703.04 Measurement and Payment for Cleaning, painting, and grouting of existing equipment retained in signal modifications** is deleted.

**Section 703.04 Measurement and Payment** is amended to include the following:

**Furnish controllers w/o cabinets** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include furnishing controllers with connecting cables.

**Furnish conflict monitor** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include furnishing conflict monitors with connecting cables which are compatible for use with Type I or Type III controllers.

**Signal load switch** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include the load switches.

**Modems** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include modem, connecting cables; and transient protection in the controller cabinets.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Furnish controller (Type) w/o cabinet	Each
Furnish conflict monitor (Type)	Each
Signal load switch	Each
Modem	Each

**Section 703.04 Pay Item and Pay Unit for Master Controller, Controller and Saw Cut** are replaced by the following:

<b>Pay Item</b>	<b>Pay Unit</b>
Master controller (Type)	Each
Controller (Type)	Each
Saw cut (Width)	Linear Foot

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VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**SIGNAL POLES**  
**(MAST ARM POLES & STRAIN POLES)**

April 19, 2007

**I. DESCRIPTION:**

This work shall consist of furnishing and installing mast arm and strain poles in accordance with the plans and this provision.

**II. MATERIALS:**

Mast arm and strain poles shall be steel.

Unless otherwise specified, mast arms and strain poles shall be of a one piece or sectional single member, tubular form and shall be round or multi-sided. Multi-sided poles shall have no less than eight sides. The pole shafts and arms shall have a removable cap fastened by no less than 3 screws.

Steel poles shall be hot dipped galvanized after fabrication. When painting of steel poles is required, the Contractor will be notified in advance and steel poles shall be painted in accordance with Section 700.02(i) of the Specifications. All cost for galvanization and painting shall be included in the price bid for the mast arm pole or strain pole.

When specified on the plans the Contractor shall furnish a 24 position two pole terminal strip constructed of non-corrosive materials shall be located on the outside of the pole just above the hand hole. A continuously welded frame and removable, weatherproof gasketed cover designed to enclose the hand hole and terminal strip shall be provided. The frame shall be at least 26-inches in height and 5 ½ inches in width. The cover shall be held in place with non-corrosive cap screws located at the top, bottom and side midpoints of the cover, and attachment holes in the frame shall be drilled and tapped.

Mast arm and strain poles shall be designed in accordance with the 1994 AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals* for a 90 mph wind load and shall include and conform to the following:

A removable galvanized steel or aluminum pole cap. If field adjusting of pole length is required, pole cap shall fit pole after adjustment. The Department will notify the Contractor on a per pole basis whether length adjustment is required.

A steel "J" hook located within 5-inches of the top of the pole for wire suspension. When pole length has been field adjusted, a "J" hook shall be attached after length adjustment.

A grounding lug welded to the inside of the pole, easily accessible from the handhole. Grounding lug shall be designed to secure the No. 6 ground wire by inserting the wire under a set screw type of lug.

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**A. Strain Poles** shall have a round base plate designed for eight 2-inch diameter anchor bolts equally spaced on a 22-inch bolt circle. All anchor bolts shall be designed with either a threaded plate or plate with nut and washer on the end of the bolt embedded in foundation. The upper ends of anchor bolts shall be threaded and furnished with nuts for pole attachment. Strain poles shall be one of the following four types and shall be field drilled for the attachment of span wire and tether wire (when required). Span wire shall be located at least 18-inches below the top of the pole. All loads shall be assumed to be tethered and no load reduction for breaking of the tether wire shall be used in the pole design.

**Type I** - Pole shall be 28 ft. in height and be designed to accommodate multiple dead loads for a two pole arrangement as shown below. For design purposes, all spans shall be assumed to be a maximum of 100 ft. and installed with a 5 ft. sag. Each dead load shall be assumed to have a wind surface as shown below.

Loads shall be spaced no closer than 2.5 ft. apart. The position of the loads in calculating wind loads shall be based upon two 60 lb., one 100 lb. and one 20 lb. load facing each of four directions. A 90 degree angle shall be assumed between each adjacent direction.

<u>No. of Loads</u>	<u>Lbs./Each</u>	<u>Sq. Ft./Each</u>
8 (Signals w/backplates)	60	8
4 (Signals w/backplates)	100	13
4 (Signs)	20	8

The area provided does not take into account the wind drag coefficient. A drag coefficient of 1.2 should be applied in determining the wind loading.

**Type II** - Pole shall be 28 ft. in height and be designed to accommodate multiple dead loads for a four pole (box) arrangement as shown below. For design purposes, all spans shall be assumed to be a maximum of 100 ft. and installed with a 5 ft. sag. Each dead load shall be assumed to have a wind surface as shown below.

The 60 lb. and 100 lb. loads shall be spaced no closer than 8 ft. apart. The 20 lb. loads shall be spaced no closer than 3 ft. from any one of the other loads. The loads on each span shall be as follows:

Major Street Spans  
 (Assume to be opposite each other)

<u>No. of Loads</u>	<u>Lbs./Each</u>	<u>Sq. Ft./Each</u>
2 (Signals w/backplates)	60	8
1 (Signal w/backplate)	100	13
1 (Sign)	20	8

The area provided does not take into account the wind drag coefficient. A drag coefficient of 1.2 should be applied in determining the wind loading.

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Minor Street Spans  
(Assume to be opposite each other)

<u>No. of Loads</u>	<u>Lbs./Each</u>	<u>Sq. Ft./Each</u>
2 (Signals w/backplates)	60	8
1 (Signal w/backplate)	100	13
1 (Sign)	20	8

The area provided does not take into account the wind drag coefficient. A drag coefficient of 1.2 should be applied in determining the wind loading.

**Type III** - Pole shall be 34 ft. in height and designed to accommodate multiple dead loads for a two pole arrangement as shown below. For design purposes, all spans shall be assumed to be a maximum of 200 ft. and installed with a 10 ft. sag. Each dead load shall be assumed to have a wind surface as shown below.

Loads shall be spaced no closer than 2.5 ft. apart. The position of the loads in calculating wind loads shall be based upon two 60 lb., one 100 lb. and one 20 lb. load facing each of four directions. A 90 degree angle shall be assumed between each adjacent direction. An additional 60 lb. load shall be considered for two directions at 180 degree angle.

<u>No. of Loads</u>	<u>Lbs./Each</u>	<u>Sq. Ft./Each</u>
10 (Signals w/backplates)	60	8
4 (Signals w/backplates)	100	13
4 (Signs)	20	8

The area provided does not take into account the wind drag coefficient. A drag coefficient of 1.2 should be applied in determining the wind loading.

**Type IV** - Pole shall be 34 ft. in height and designed to accommodate multiple dead loads for a four pole (box) arrangement as shown below. For design purposes, all spans shall be assumed to be a maximum of 200 ft. and installed with a 10 ft. sag. Each dead load shall be assumed to have a wind surface as shown below. The 60 lb. and 100 lb. loads shall be spaced no closer than 8 ft. apart. The 20 lb. loads shall be spaced no closer than 3 ft. from any one of the other loads. The loads on each span shall be as follows:

Major Street Spans  
(Assume to be opposite each other)

<u>No. of Loads</u>	<u>Lbs./Each</u>	<u>Sq. Ft./Each</u>
3 (Signals w/backplates)	60	8
1 (Signal w/backplate)	100	13
1 (Sign)	20	8

The area provided does not take into account the wind drag coefficient. A drag coefficient of 1.2 should be applied in determining the wind loading.

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Minor Street Spans  
(Assume to be opposite each other)

<u>No. of Loads</u>	<u>Lbs./Each</u>	<u>Sq. Ft./Each</u>
2 (Signals w/backplates)	60	8
1 (Signal w/backplate)	100	13
1 (Sign)	20	8

The area provided does not take into account the wind drag coefficient. A drag coefficient of 1.2 should be applied in determining the wind loading.

**B. Mast Arm Poles** shall include a mast arm attachment flange plate 19-inches in width and 30-inches in height continuously welded to gusset and side plates. Gusset and side plates shall be continuously welded to the pole and each other. The flange plate shall be parallel to the axis of the pole. Flange plates for mast arm poles with two arms shall be positioned 90 degrees to each other. The flange plate shall be fabricated with eight permanently mounted 1½-inch diameter studs for receiving nuts or the flange plate shall be threaded for receiving eight 1½-inch diameter bolts for attachment of the arm. The flange plate shall be suitable for supporting a 75 ft. arm and loading shown herein. The eight bolt pattern for the flange plates shall be centered on a 14 ½-inch width x 25 ½-inch height for the four outside bolts and a 14 ½-inch width x 16 ½-inch height for the four inside bolts. The flange plate and pole shall have a 4-inch wiring hole centered in the pattern. Wiring hole shall be deburred and rounded or fitted with a rubber grommet. Mast arm poles shall have a round base plate designed for eight 2-inch diameter anchor bolts equally spaced on a 24-inch bolt circle. All anchor bolts shall be designed with either a threaded plate or plate with nut and washer on the end of the bolt embedded in foundation. The upper ends of anchor bolts shall be threaded and furnished with nuts for pole attachment. Mast arm poles shall be of the following four types.

**TYPE I** shall be manufactured for single mast arms. Mast arm poles shall be 20 ft. in height and designed and fabricated (including arm attachment) to support any arm length and loading specified herein.

**TYPE II** shall be manufactured for dual mast arms. Mast arm poles shall be 20 ft. in height and designed and fabricated (including arm attachments) to support two arms of any lengths up to 60 ft. and loading specified herein.

**TYPE III** shall be manufactured for single mast arm with luminaire arm. Mast arm poles shall be 26 ft. in height and designed and fabricated (including arm attachment) to support both mast arm and luminaire arm of the length and loading specified herein.

**TYPE IV** shall be manufactured for dual mast arms with luminaire arm. Mast arm poles shall be 26 ft. in height and designed and fabricated (including arm attachment) to support two mast arms of any length up to 60 foot and a luminaire arm of the length and loading specified herein.

Poles shall be designed in addition to loads indicated herein to support a CCTV video camera and mounting bracket attached to the side of pole 1 ft. from the top. Pole shall be designed for installation of CCTV equipment within the full pole circumference. Loading of the CCTV equipment and bracket shall be 15 lbs. dead load and 1 sq. ft. wind load area.

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- C. Mast arms** shall have an arm plate the same width and height as the arm attachment flange plate on the pole and with holes to accommodate the flange plate studs. The amount of arm rise shall not be less than required to prevent the end of the arm from deflecting below the horizontal plane nor greater than required to prevent the mounting height of signal heads from exceeding 19 ft. Mast arms shall be one of seven different lengths: 30, 40, 50, 60, 65, 70 and 75 feet and shall be designed to accommodate dead loading and wind loading specified below for rigid mounted signal heads and signs.

**30 and 40 Foot Mast Arm Lengths**

Loading concentrated 1 ft. from the end of arm shall be a signal w/backplate with 100 lbs. of dead load and 13 sq. ft. of area. Three loads, applied at 8 ft. increments from the first load to pole attachment, shall be signals w/backplates with 60 lbs. of dead load and 8 sq. ft. of area each. The area provided does not take into account the wind drag coefficient. A drag coefficient of 1.2 should be applied in determining the wind loading.

Two additional sign loads shall be applied as follows: The first load shall be applied 4 ft. from end of arm, shall be a sign with 20 lbs. of dead load and 8 sq. ft. of area. The second load shall be applied from the pole attachment to the closest signal load, shall be a sign weighing 70 lbs. with 30 Sq. Ft. of area.

**50, 60 and 65 Foot Mast Arm Lengths**

Loading shall be same as for 30 ft. and 40 ft. lengths except an additional 8 ft. increment loading of 60 lbs. and 8 sq. ft. area for a signal w/backplate shall be applied. The area provided does not take into account the wind drag coefficient. A drag coefficient of 1.2 should be applied in determining the wind loading.

**70 and 75 Foot Mast Arm Lengths**

Loading shall be the same as for the 30 ft. and 40 ft. lengths except two additional 8 ft. increment loads of 60Lbs and 8 sq. ft area. for a signal w/backplate shall be applied. The area provided does not take into account the wind drag coefficient. A drag coefficient of 1.2 should be applied in determining the wind loading.

**30, 40, 50, 60, 65, 70 and 75 Foot Mast Arm Lengths**

An additional load concentrated at the midpoint of all arm lengths shall be a video camera and mounting bracket with 22 lbs. of dead load and 1 sq. ft. area. The area provided does not take into account the wind drag coefficient. A drag coefficient of 1.2 should be applied in determining the wind loading.

- D. Luminaire arms** shall be galvanized steel designed for clamp on installation on the 26 ft. Type III and Type IV poles. Luminaire arm design shall be in accordance with the AASHTO design requirements indicated herein. Clamps shall be provided with stainless steel or galvanized hardware with a minimum of four bolts per clamp for securing the clamps to the pole. Clamps attaching the luminaire arm to the pole shall be designed to fit the section of pole above the mast arm without using spacers or shims for a uniform rigid installation. Luminaire arm shall be a truss type design with a rise of 42-inch to 48-inch. Luminaire arms shall be designed with spacing between the two clamps to fit within the space above the mast arm and 1 ft. from the top of the pole.

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Luminaire arms for either the Type III or Type IV poles shall be one of two lengths, 15 ft. or 18 ft. Luminaire arms shall be designed to accommodate a video camera with 22 lbs. of dead load and 1 sq. ft. of wind load area concentrated 1 ft. from the end of arm. An additional load applied on the end of the arm, shall be a luminaire with 35 lbs. of dead load and 1 sq. ft. of wind load area.

The mast and luminaire arms shall be field drilled for cable wiring and fitted with rubber grommets.

The mast arm shall be equipped with a removable, galvanized steel or aluminum end cap. If field adjusting of mast arm length is required, end cap shall properly fit arm after adjustment. The Department will notify the Contractor on a per arm basis whether length adjustment is required.

**IV. WORKING DRAWINGS:**

The Contractor shall submit working drawings in accordance with Section 700.03 of the Specifications in addition to completing and submitting the attached design summary forms for signal poles and submit them with the shop drawings and design calculations.

**V. PROCEDURES:**

Mast arm and strain poles shall not be erected on concrete foundations until the concrete has obtained a compressive strength of at least 3,000 pounds per square inch or has cured for at least 7 days when **high-early-strength** is used or 28 days when class A3 concrete is used. Strength Test shall be in accordance with Section 217.08(b) of the Specifications.

The Contractor may install a No. 3 rebar to encompass the anchor bolts to prevent their individual movement during concrete placement. The rebar shall be attached to the anchor bolts with rebar twist ties.

Unless otherwise specified on the plans, Mast arm and strain poles shall be installed in accordance with Section 700 of the specifications.

An identification tag conforming to the requirements of Section 700.04(e) of the Specifications shall be permanently attached to each mast arm and strain pole.

**VI. MEASUREMENT AND PAYMENT:**

**Strain poles** will be measured in units of each for the type specified and will be paid for in units of each. this price bid shall include pole, grounding lugs, hand holes and covers, terminal strips when required, caps, bolt covers, fittings, identification tag.

**Mast arm poles** will be measured in units of each for the type specified and will be paid for in units of each. This price bid shall include pole, grounding lugs, hand holes and covers, terminal strips when required, caps, bolt covers, fittings, identification tag.

**Mast arms** will be measured in units of each for the length specified and will be paid for at the contract unit price per each. Mast arms shall include arms, field adjustment of arm lengths, arm caps, fittings, field drilling of wire outlet holes and rubber grommets.

**Luminaire arms** will be measured and paid for in accordance with Section 700.05 of the Specifications.

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Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Strain poles (type)	Each
Mast arm Poles (type)	Each
Mast arm (Length)	Each



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SUBJECT: DESIGN SUMMARY FOR STRAIN POLE WITH CABLE(S)

(Sheet 2 of 3)

Pole data (cont'd.):

\_\_\_\_\_ consists of several sections (not tapered):

	Section 1 (topmost)	Section 2	Section 3	Section 4
thickness (in.)	_____	_____	_____	_____
diameter (in.)	_____	_____	_____	_____
area (sq. in.)	_____	_____	_____	_____
I (in. <sup>4</sup> )	_____	_____	_____	_____

AASHTO design wind speed: (check one)

\_\_\_\_\_ 70 mph    \_\_\_\_\_ 80 mph    \_\_\_\_\_ 90 mph    \_\_\_\_\_ 100 mph  
 \_\_\_\_\_ other. Wind speed is \_\_\_\_\_ mph.

Design loads on pole at base (bottom):

AASHTO	CSR	Axial Load (lbs.)	Shear Normal (lbs.)	Shear Trans. (lbs.)	Torsion (ft.-lbs.)
Group I	_____	_____	_____	_____	_____
Group II	_____	_____	_____	_____	_____
Group III	_____	_____	_____	_____	_____
Misc.	_____	_____	_____	_____	_____

Misc. loading is maximum loading while tether cable is active or just prior to breaking.

JFJV  
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SUBJECT: DESIGN SUMMARY FOR STRAIN POLE WITH CABLE(S) (Sheet 3 of 3)

Design loads on pole at base (bottom) (cont'd.):

AASHTO	Moment Normal (ft.-lbs.)	Moment Trans. (ft.-lbs.)	Resultant Moment (ft.-lbs.)
Group I	_____	_____	_____
Group II	_____	_____	_____
Group III	_____	_____	_____
Misc.	_____	_____	_____

Anchor bolt data:

ASTM designation: \_\_\_\_\_

Number of bolts: \_\_\_\_\_ Bolt circle: \_\_\_\_\_ in.

Bolt length(s): \_\_\_\_\_ in.

If nuts are used, ASTM designation: \_\_\_\_\_

If washer is used, ASTM designation: \_\_\_\_\_ size: \_\_\_\_\_

If plate is used, ASTM designation: \_\_\_\_\_ size: \_\_\_\_\_

Thickness: \_\_\_\_\_ in.

JFJV  
05-28-92

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SUBJECT: DESIGN SUMMARY FOR CANTILEVER MAST ARM POLE

(Sheet 1 of 3)

Project: \_\_\_\_\_  
City/County: \_\_\_\_\_  
Pole Manufacturer: \_\_\_\_\_  
Address: \_\_\_\_\_  
Date: \_\_\_\_\_ 19 \_\_\_\_\_

Material designation of pole: ASTM \_\_\_\_\_ API \_\_\_\_\_  
Other \_\_\_\_\_

Yield strength of pole ( $F_y$ ): \_\_\_\_\_ (psi)

Pole height: \_\_\_\_\_

Mast arm is attached \_\_\_\_\_ feet from top of pole.

Mast arm: \_\_\_\_\_ single; \_\_\_\_\_ double; other: \_\_\_\_\_

If double: angle between arms (in degrees) \_\_\_\_\_

Length of arm(s): \_\_\_\_\_ (feet)

Pole data: (check one and fill in data):

\_\_\_\_\_ same section throughout pole: thickness: \_\_\_\_\_ in.

diameter: \_\_\_\_\_ in.

area: \_\_\_\_\_ sq. in.

I: \_\_\_\_\_ in.<sup>4</sup>

JFJV  
05-28-92

**ORDER NO.: G34**  
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SUBJECT: DESIGN SUMMARY FOR CANTILEVER MAST ARM POLE (Sheet 2 of 3)

Pole data (cont.):

\_\_\_\_\_ tapered section: thickness: \_\_\_\_\_ in.  
 diameter: at top: \_\_\_\_\_ in. at bottom: \_\_\_\_\_ in.  
 area: at top: \_\_\_\_\_ sq. in. at bottom : \_\_\_\_\_ sq. in.  
 I: at top: \_\_\_\_\_ in.<sup>4</sup> at bottom: \_\_\_\_\_ in.<sup>4</sup>

\_\_\_\_\_ consists of several sections (not tapered):

	Section 1 (topmost)	Section 2	Section 3	Section 4
thickness (in.)	_____	_____	_____	_____
diameter (in.)	_____	_____	_____	_____
area (sq. in.)	_____	_____	_____	_____
I (in. <sup>4</sup> )	_____	_____	_____	_____

AASHTO design wind speed: (check one)

\_\_\_\_\_ 70 mph      \_\_\_\_\_ 80 mph      \_\_\_\_\_ 90 mph      \_\_\_\_\_ 100 mph  
 \_\_\_\_\_ other. Wind speed is \_\_\_\_\_ mph.

JFJV  
 05-28-92

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

SUBJECT: DESIGN SUMMARY FOR CANTILEVER MAST ARM POLES (Sheet 3 of 3)

Design loads on pole at base (bottom):

AASHTO	CSR	Axial Load (lbs.)	Shear Normal (lbs.)	Shear Trans. (lbs.)	Torsion (ft.-lbs.)
Group I	_____	_____	_____	_____	_____
Group II	_____	_____	_____	_____	_____
Group III	_____	_____	_____	_____	_____

AASHTO	Moment Normal (ft.-lbs.)	Moment Trans. (ft.-lbs.)	Resultant Moment (ft.-lbs.)
Group I	_____	_____	_____
Group II	_____	_____	_____
Group III	_____	_____	_____

Anchor bolt data:

ASTM designation: \_\_\_\_\_  
 Number of bolts: \_\_\_\_\_ Bolt circle: \_\_\_\_\_ in.  
 Bolt length(s): \_\_\_\_\_ in.  
 If nuts are used, ASTM designation: \_\_\_\_\_  
 If washer is used, ASTM designation: \_\_\_\_\_ size: \_\_\_\_\_  
 If plate is used, ASTM designation: \_\_\_\_\_ size: \_\_\_\_\_  
 Thickness: \_\_\_\_\_ in.

JFJV  
 05-28-92

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**INSTALLATION OF WIRELESS VEHICLE DETECTION SYSTEM**

September 13, 2010

**I. DESCRIPTION:**

This work shall consist of installation of a wireless in pavement detection system in accordance with the plans, manufacturers recommendations and the Engineers instructions.

**II. MATERIALS:**

Materials will be furnished by the Department for installation by the Contractor.

**III. CONSTRUCTION:**

The Contractor shall install the wireless vehicle detection in accordance with the plan details and in accordance with the manufacturers instructions, unless otherwise directed by the Engineer.

**IV. MEASUREMENT AND PAYMENT:**

**Install wireless detection sensor** will be measured in units of each and will be paid for at the contract unit price bid per each which price bid shall include transportation of materials, cutting and repair of pavement, installation of wireless detection sensor and all labor, equipment and incidentals necessary to complete the work.

**Install external communication system interface** will be measured in units of each and will be paid for at the contract unit price bid per each which price bid shall include transportation of materials, mounting bracket, installation of external communication system interface, adjustments, testing and all labor, equipment and incidentals necessary to complete the work.

**Install detector contact interface** will be measured in units of each and will be paid for at the contract unit price bid per each which price bid shall include transportation of materials, cabinet modifications, wiring connections, installation detector contact interface, testing, adjustments and all labor, equipment and incidentals necessary to complete the work.

**Install communication system interface repeater** will be measured in units of each and will be paid for at the contract unit price bid per each which price bid shall include transportation of materials, mounting bracket, Installation of communication system interface repeater, adjustments, testing and all labor, equipment and incidentals necessary to complete the work.

**Install Detector Contact Extension** will be measured in units of each and will be paid for at the contract unit price bid per each which price bid shall include transportation of materials, cabinet modifications, wiring connections, installation of detector contact extension and all labor, equipment and incidentals necessary to complete the work.

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

Install Communication Cable will be measured in units of linear feet and will be paid for at the contract unit price bid per linear foot which price bid shall include transportation of materials, installation of communication cable, wiring connections, and all labor, equipment and incidentals necessary to complete the work.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Install Wireless Detection Sensor	Each
Install External Communication System Interface	Each
Install Detector Contact Interface	Each
Install Communication System Interface Repeater	Each
Install Detector Contact Extension	Each
Install Communication Cable	Linear Foot

**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

**“NO PLAN” RAAP (CONSTRUCTION & MAINTENANCE) PROJECTS**  
**COMMONWEALTH OF VIRGINIA**  
**DEPARTMENT OF TRANSPORTATION**  
**CONSTRUCTION:  X  MAINTENANCE: \_\_\_\_\_**

DISTRICT:  NORTHWEST REGION  CITY/COUNTY:  VARIOUS  UPC NO.:  97026

FUNCTIONAL CLASS  RURAL MAJOR COLLECTOR  FHWA 534 DATA  14112  TYPE CODE \_\_\_\_\_

ROUTE:  Vari  PROJ.  TS06-968-911  FEDERAL NO.:  IM/STP-968-8(063)

FROM:  VARIOUS  TO:  VARIOUS

LENGTH (FEET):  N/A  MILES  N/A

TOPO:  N/A  DESIGN SPEED (MPH):  N/A  VPD (YEAR)  N/A

PROJECT MGR:  STEVEN DAMRON  R/W DONATION:  N/A

Utilities \_\_\_\_\_ and/or Railroads \_\_\_\_\_ are involved in the construction of this project.

This project is to be constructed in accordance with the Department's 2007 Road and Bridge Specifications, 2008 Road and Bridge Standards, 2005 Work Area Protection Manual and as amended by contract provisions and the complete plan assembly.

Design features relating to construction or to regulation and control of traffic may be subject to change as deemed necessary by the department.

DISTRICT FUNDING CONFIRMATION	
07/12/2010	s/ Dean Gustafson, PE, PTOE, Regional Operations Director
DATE	DISTRICT ADMINISTRATOR or DESIGNEE
DISTRICT RECOMMENDED APPROVAL FOR CONSTRUCTION	
07/12/2010	s/ Darin Simpson, PE NWRO Const. Engr.
DATE	RESPONSIBLE PERSON
CENTRAL OFFICE RECOMMENDED FOR APPROVAL FOR CONSTRUCTION	
07/23/10	Dane P. Lewis for
DATE	PROGRAMMING DIVISION DIRECTOR
07/27/10	Emmett R. Heltzel for
DATE	STATE LOCATION & DESIGN ENGINEER or MAINTENANCE DIVISION ADMINISTRATOR <b>(Roadway Construction Projects)</b> <b>(Roadway and Bridge Maintenance Projects)</b>
7/27/10	Reta Busher
DATE	CHIEF FINANCIAL OFFICER
CENTRAL OFFICE APPROVED FOR CONSTRUCTION	
7/27/10	Malcolm T. Kerley
DATE	CHIEF ENGINEER

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COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

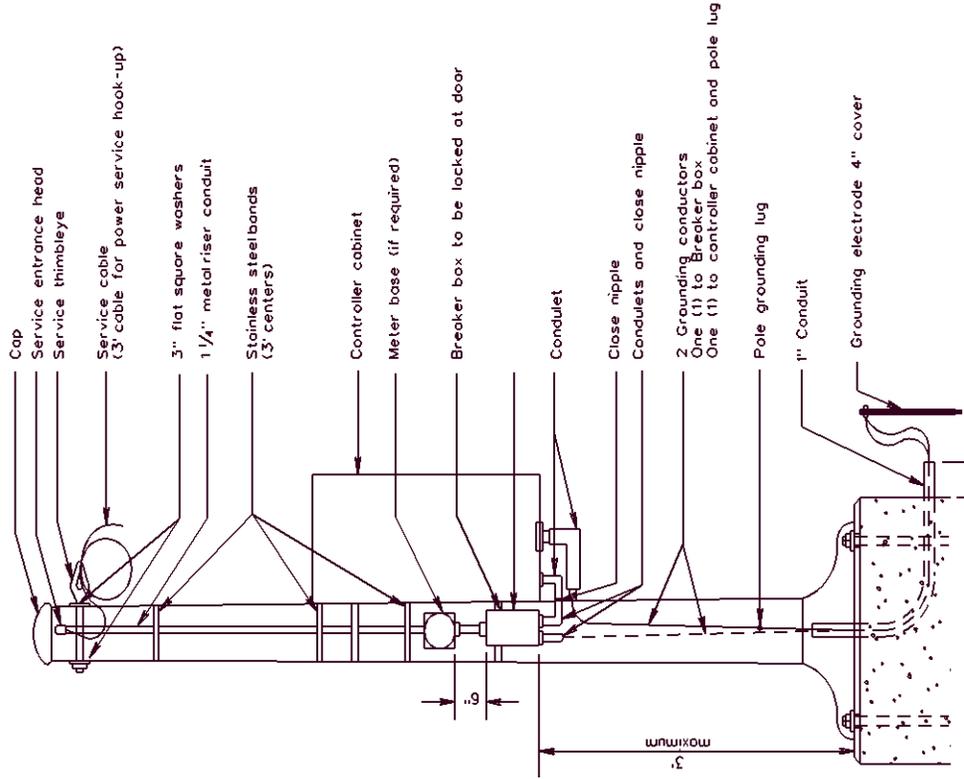
"NO PLAN" RAAP (CONSTRUCTION AND MAINTENANCE) PROJECTS  
SIGNING AND SEALING SHEET

<p>EMMETT DARIN SIMPSON Lic. No. 042310</p>		
<p>Emmett D Simpson 2010.07.12 15:14:34 -0400'</p>		
<p>VDOT (NW Region Oper.) Staunton, Virginia Civil Engineer Traffic Engineering</p>	<p>VDOT (Division) or Company Name Insert Location, Virginia Insert Technical Discipline</p>	<p>VDOT (Division) or Company Name Insert Location, Virginia Insert Technical Discipline</p>

SE-1

Notes:

- No other conductors shall be run in the same conduit with electrical service cable.
- Concrete pad required when cabinet mounted on pole in earth areas. (See Standard CTE-1 for pad detail).
- For alternate method of grounding conductor entering breaker box see Standard SE-5.



TYPE A

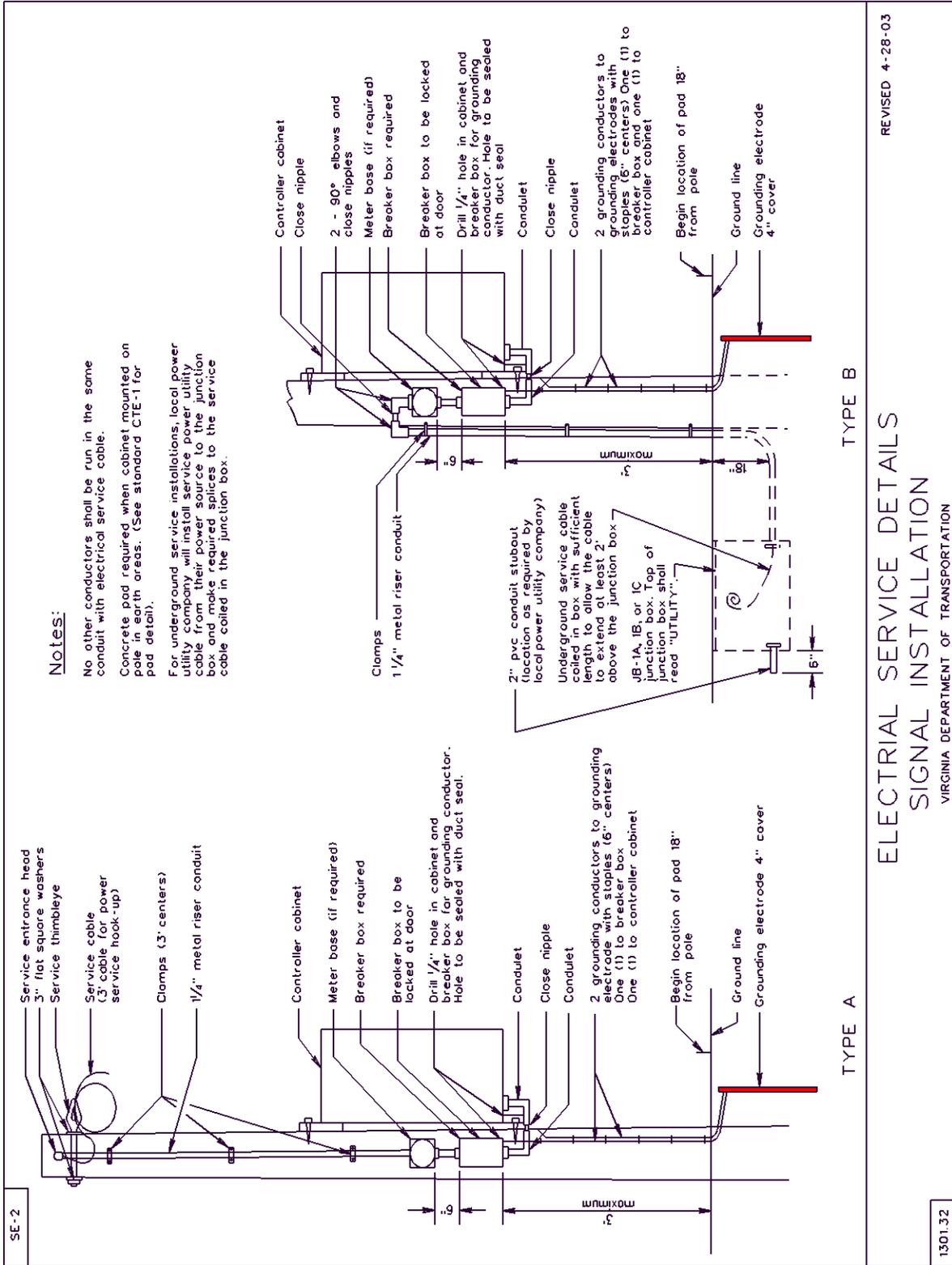
ELECTRICAL SERVICE DETAILS  
 SIGNAL INSTALLATIONS

VIRGINIA DEPARTMENT OF TRANSPORTATION

REVISED 6-18-02

1501.30





REVISED 4-28-03

TYPE B

TYPE A

ELECTRICAL SERVICE DETAILS  
 SIGNAL INSTALLATION

VIRGINIA DEPARTMENT OF TRANSPORTATION

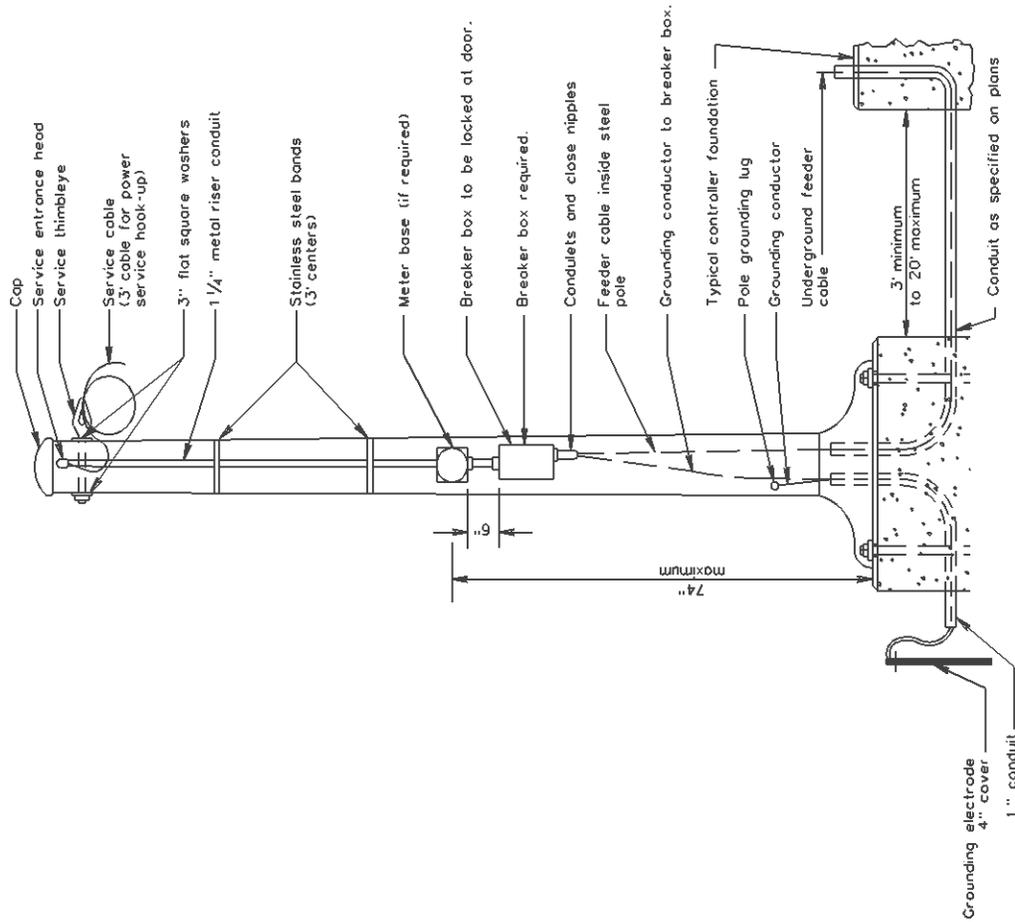
1301.32

SE-3

Notes:

No other conductors shall be run in the same conduit with electrical service cable.

For alternate method of service cable and grounding conductor entering breaker box, see standard SE-5

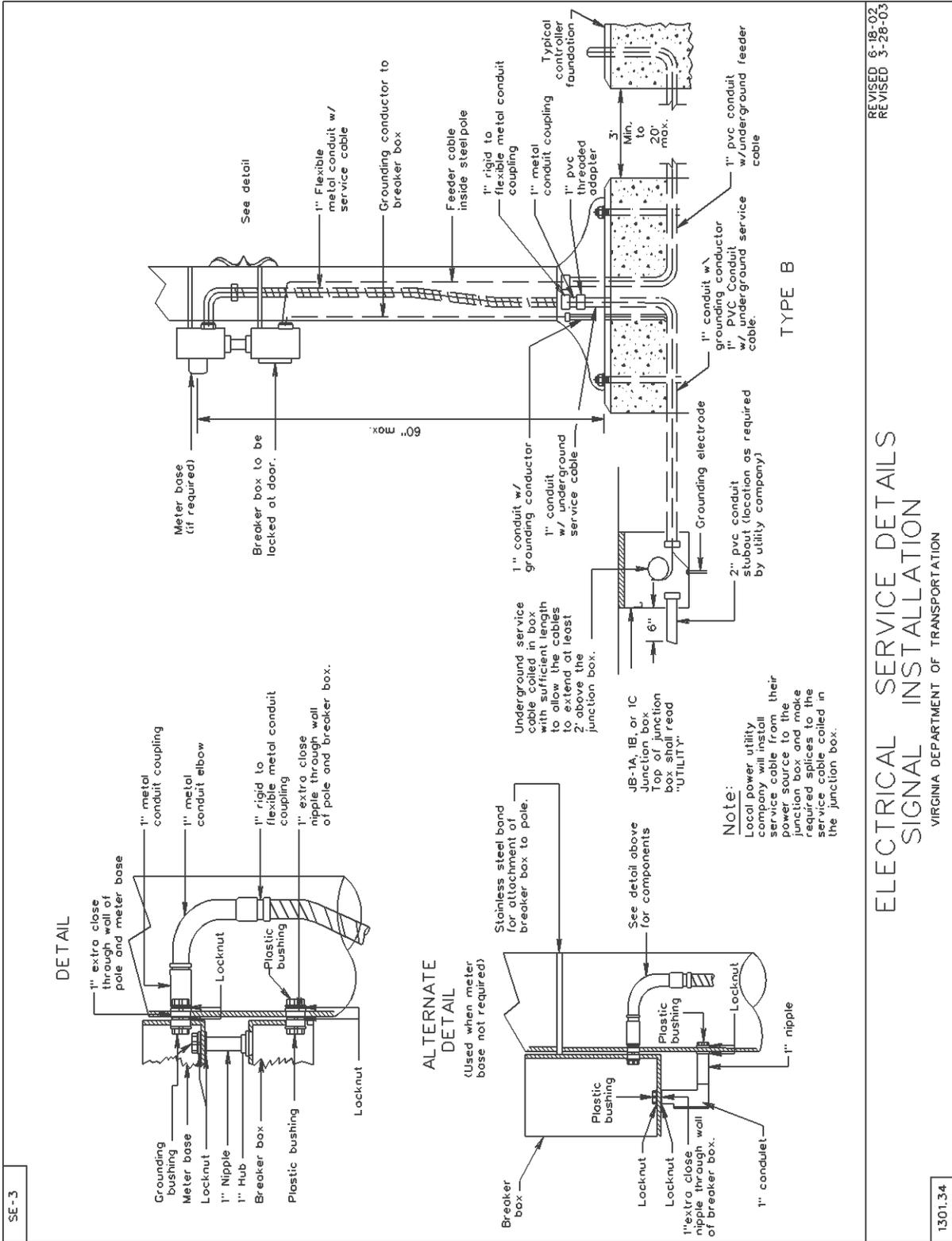


TYPE A

ELECTRICAL SERVICE DETAILS  
 SIGNAL INSTALLATION  
 VIRGINIA DEPARTMENT OF TRANSPORTATION

REVISED 6-18-02

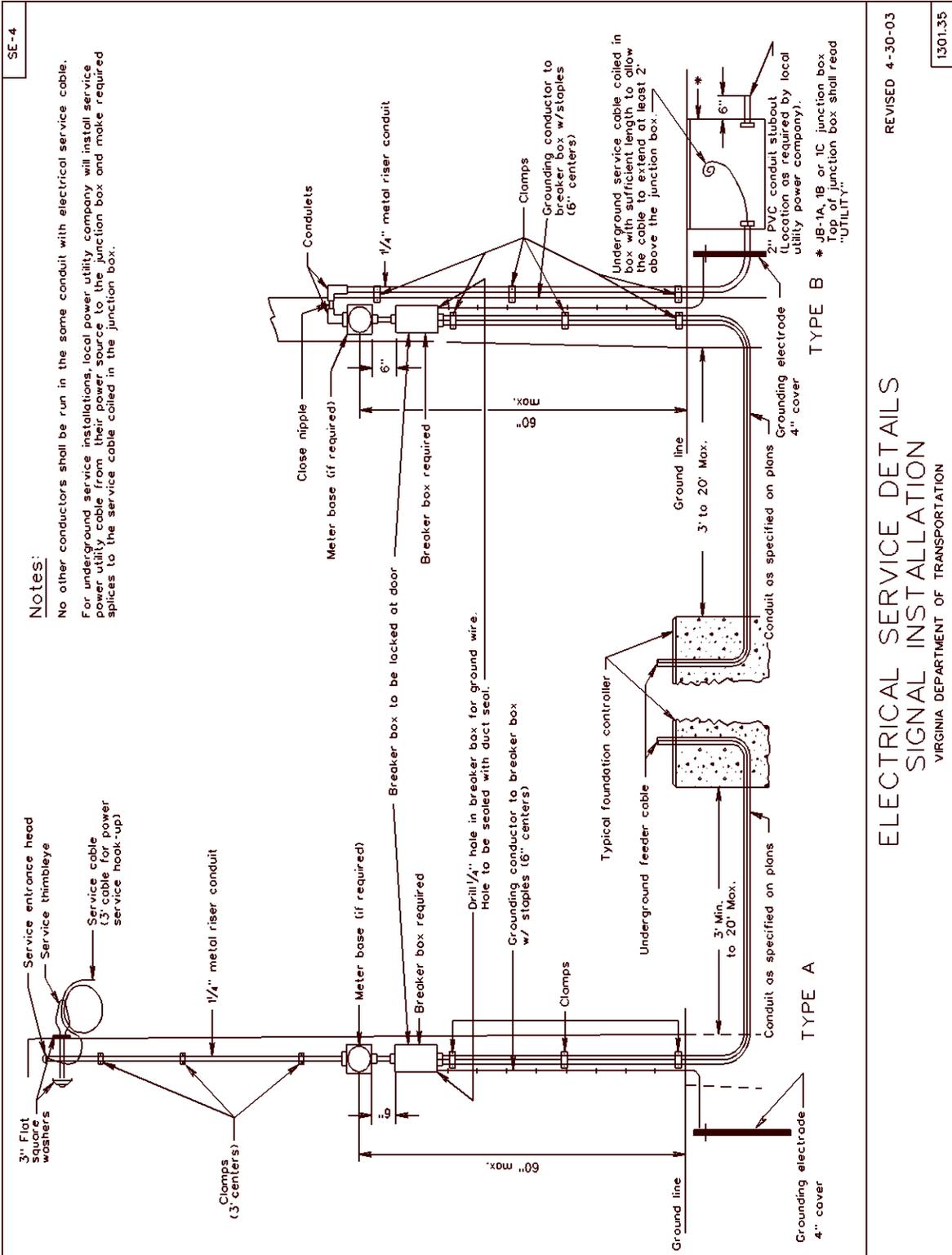
1301.33



REVISION 6-18-02  
 REVISION 3-28-03

ELECTRICAL SERVICE DETAILS  
 SIGNAL INSTALLATION  
 VIRGINIA DEPARTMENT OF TRANSPORTATION

1301.34



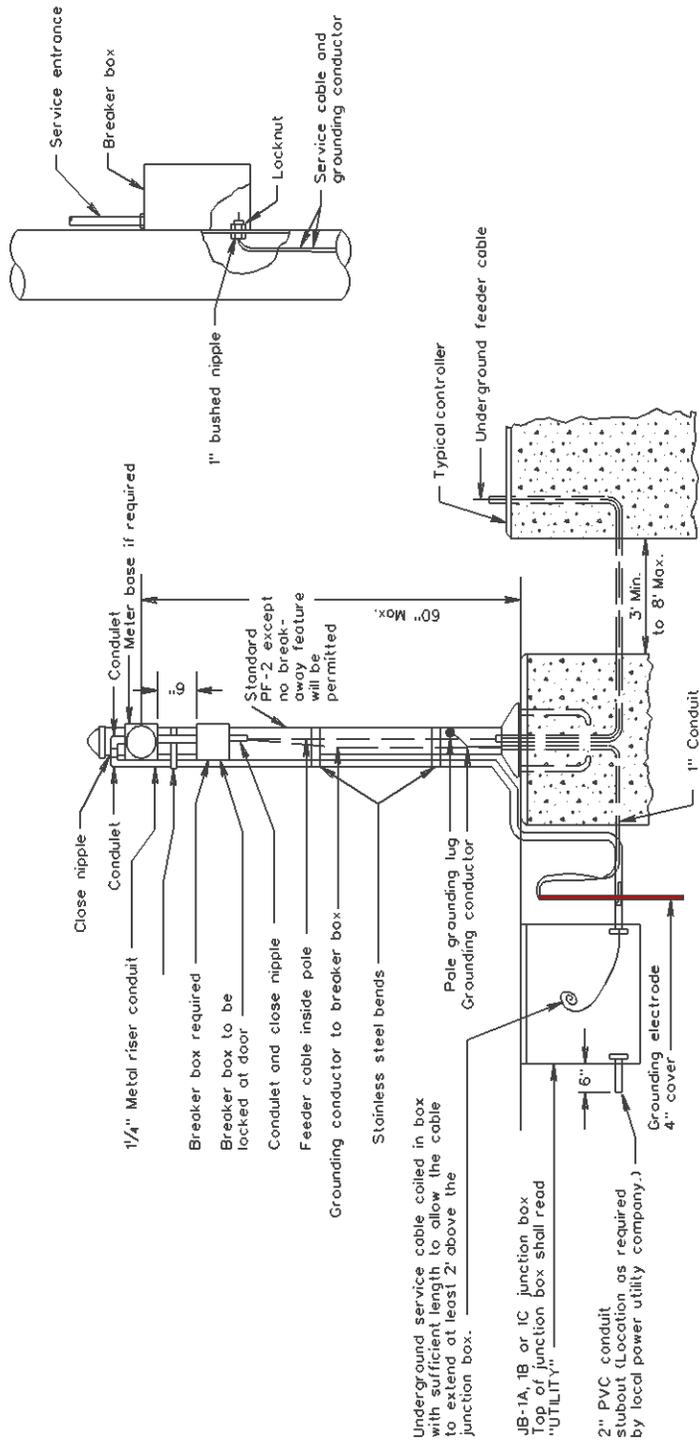
ELECTRICAL SERVICE DETAILS  
 SIGNAL INSTALLATION  
 VIRGINIA DEPARTMENT OF TRANSPORTATION

REVISED 4-30-03

1301.35

SE-5

ALTERNATE METHOD OF SERVICE CABLE AND GROUND  
 WIRE ENTERING BREAKER BOX



**Notes:**

- No. other conductors shall be run in the same conduit with electrical service cable.
- Local power utility company will install service power utility cable from their power source to the junction box and make required splices to the service cable coiled in the junction box.

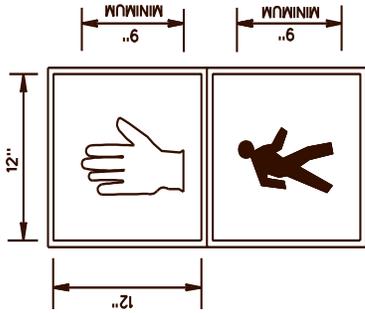
PEDESTAL POLE WITH  
 GROUND MOUNTED CABINET

ELECTRICAL SERVICE DETAILS  
 SIGNAL INSTALLATION  
 VIRGINIA DEPARTMENT OF TRANSPORTATION

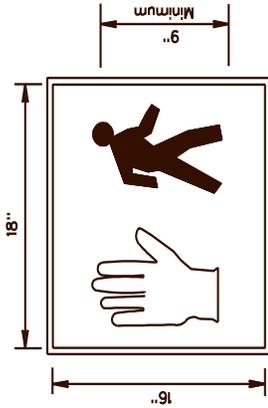
REVISED4 - 30-03

1301.36

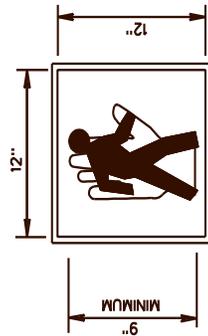
SP-5,6,7,8,9



SP-7

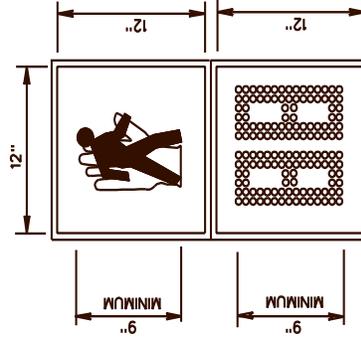


SP-6

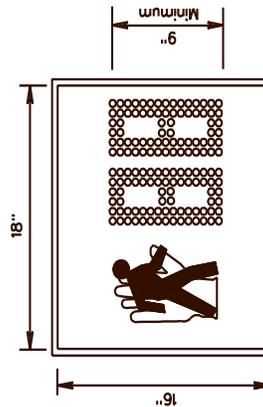


SP-5

Pedestrian Signals shall include Light Emitting Diodes conforming to Section 238 of the Specifications.



SP-9



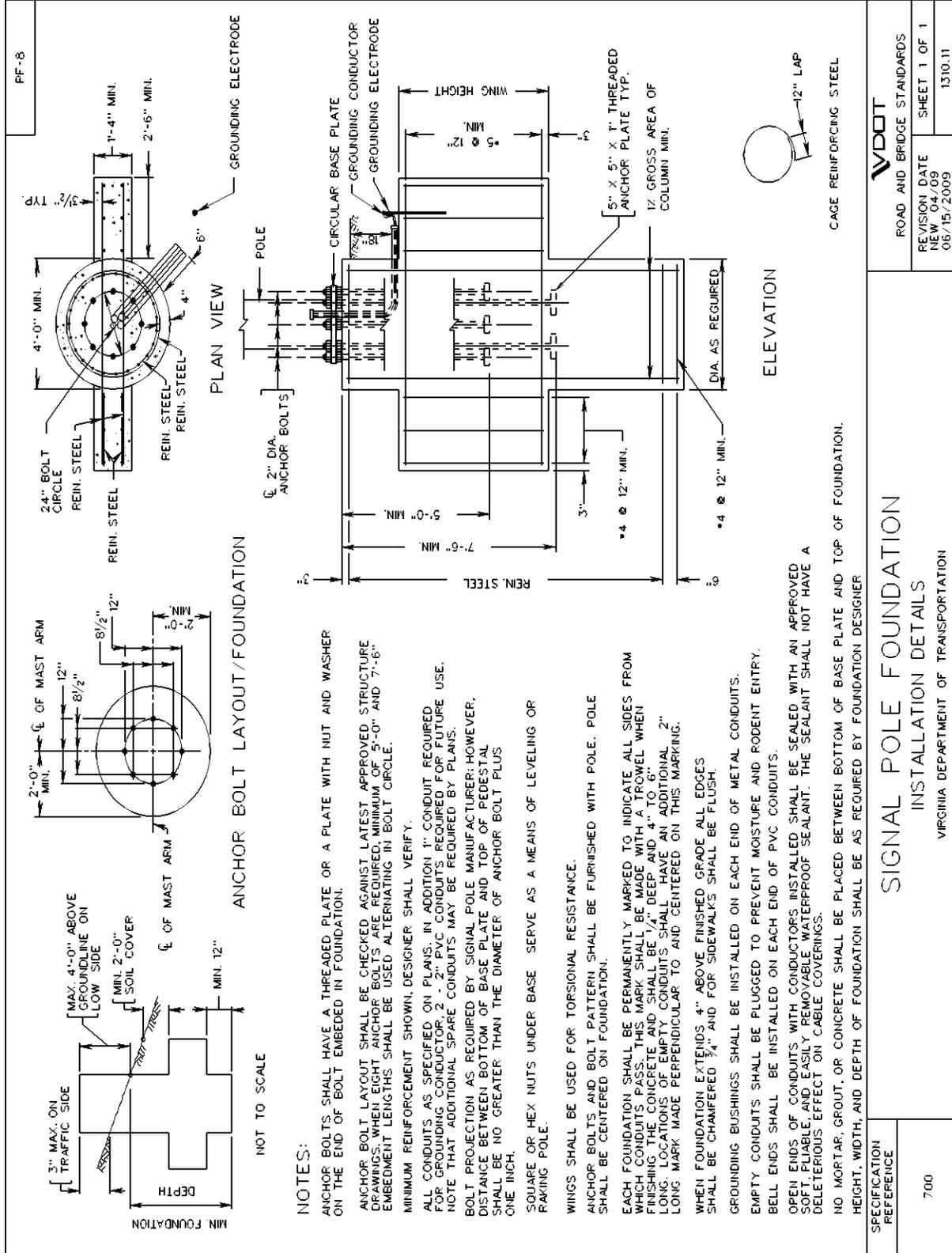
SP-8

PEDESTRIAN SIGNAL INDICATION DETAILS

VIRGINIA DEPARTMENT OF TRANSPORTATION

REV 7/05

1301.28



PF-8

PLAN VIEW

ANCHOR BOLT LAYOUT/FOUNDATION

ELEVATION

NOT TO SCALE

**NOTES:**

- ANCHOR BOLTS SHALL HAVE A THREADED PLATE OR A PLATE WITH NUT AND WASHER ON THE END OF BOLT EMBEDDED IN FOUNDATION.
- ANCHOR BOLT LAYOUT SHALL BE CHECKED AGAINST LATEST APPROVED STRUCTURE DRAWINGS. WHEN EIGHT ANCHOR BOLTS ARE REQUIRED, MINIMUM OF 5'-0" AND 7'-6" EMBEDMENT LENGTHS SHALL BE USED ALTERNATING IN BOLT CIRCLE.
- MINIMUM REINFORCEMENT SHOWN, DESIGNER SHALL VERIFY.
- ALL CONDUITS AS SPECIFIED ON PLANS, IN ADDITION 1" CONDUIT REQUIRED FOR GROUNDING CONDUCTOR, 2 - 2" PVC CONDUITS REQUIRED FOR FUTURE USE. NOTE THAT ADDITIONAL SPARE CONDUITS MAY BE REQUIRED BY PLANS.
- BOLT PROJECTION AS REQUIRED BY SIGNAL POLE MANUFACTURER; HOWEVER, DISTANCE BETWEEN BOTTOM OF BASE PLATE AND TOP OF PEDESTAL SHALL BE NO GREATER THAN THE DIAMETER OF ANCHOR BOLT PLUS ONE INCH.
- SQUARE OR HEX NUTS UNDER BASE SERVE AS A MEANS OF LEVELING OR RAKING POLE.
- WINGS SHALL BE USED FOR TORSIONAL RESISTANCE.
- ANCHOR BOLTS AND BOLT PATTERN SHALL BE FURNISHED WITH POLE. POLE SHALL BE CENTERED ON FOUNDATION.
- EACH FOUNDATION SHALL BE PERMANENTLY MARKED TO INDICATE ALL SIDES FROM WHICH CONDUITS PASS. THIS MARK SHALL BE MADE WITH A TROWEL WHEN FINISHING THE CONCRETE AND SHALL BE 1/4" DEEP AND 4" TO 6" LONG. LOCATIONS OF EMPTY CONDUITS SHALL HAVE AN ADDITIONAL LONG MARK MADE PERPENDICULAR TO AND CENTERED ON THIS MARKING.
- WHEN FOUNDATION EXTENDS 4" ABOVE FINISHED GRADE ALL EDGES SHALL BE CHAMFERED 1/4" AND FOR SIDEWALKS SHALL BE FLUSH.
- GROUNDING BUSHINGS SHALL BE INSTALLED ON EACH END OF METAL CONDUITS.
- EMPTY CONDUITS SHALL BE PLUGGED TO PREVENT MOISTURE AND RODENT ENTRY.
- BELL ENDS SHALL BE INSTALLED ON EACH END OF PVC CONDUITS.
- OPEN ENDS OF CONDUITS WITH CONDUCTORS INSTALLED SHALL BE SEALED WITH AN APPROVED SOFT, PLIABLE, AND EASILY REMOVABLE WATERPROOF SEALANT. THE SEALANT SHALL NOT HAVE A DELETERIOUS EFFECT ON CABLE COVERINGS.
- NO MORTAR, GROUT, OR CONCRETE SHALL BE PLACED BETWEEN BOTTOM OF BASE PLATE AND TOP OF FOUNDATION. HEIGHT, WIDTH, AND DEPTH OF FOUNDATION SHALL BE AS REQUIRED BY FOUNDATION DESIGNER.

SPECIFICATION REFERENCE

700

**SIGNAL POLE FOUNDATION**  
 INSTALLATION DETAILS

VIRGINIA DEPARTMENT OF TRANSPORTATION

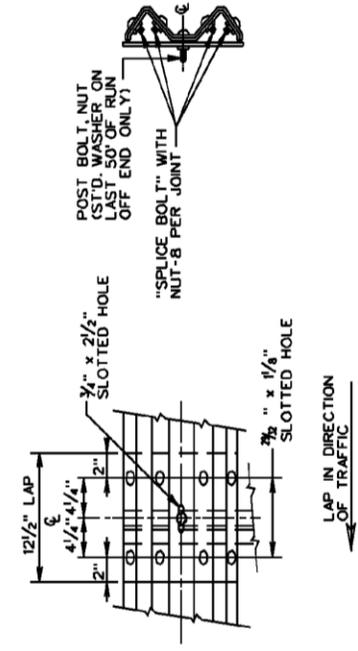
VDOT

ROAD AND BRIDGE STANDARDS

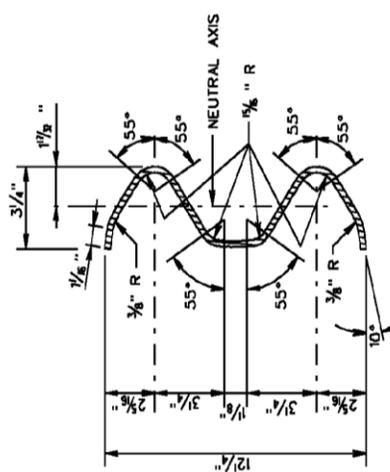
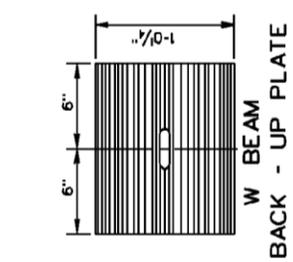
REVISION DATE SHEET 1 OF 1

NEW 04/09 05/15/2009 1310.11

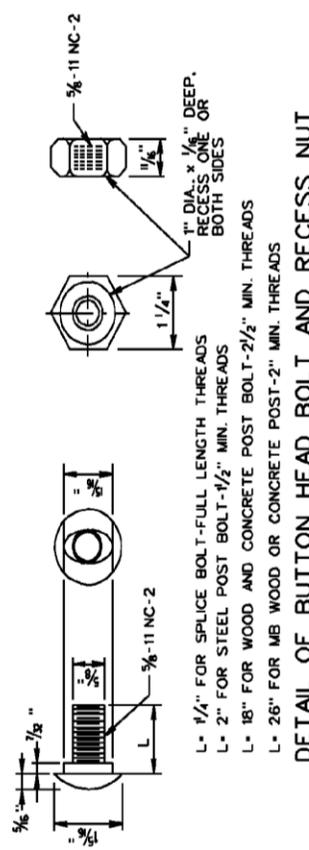
GR-HDW



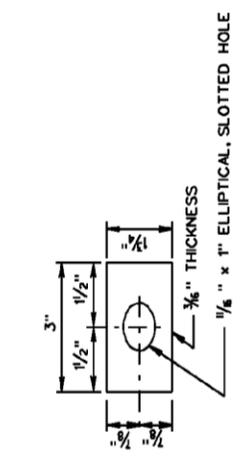
DETAIL OF SPLICE JOINT



SECTION THRU RAIL ELEMENT AND W BEAM BACK-UP PLATE



DETAIL OF BUTTON HEAD BOLT AND RECESS NUT

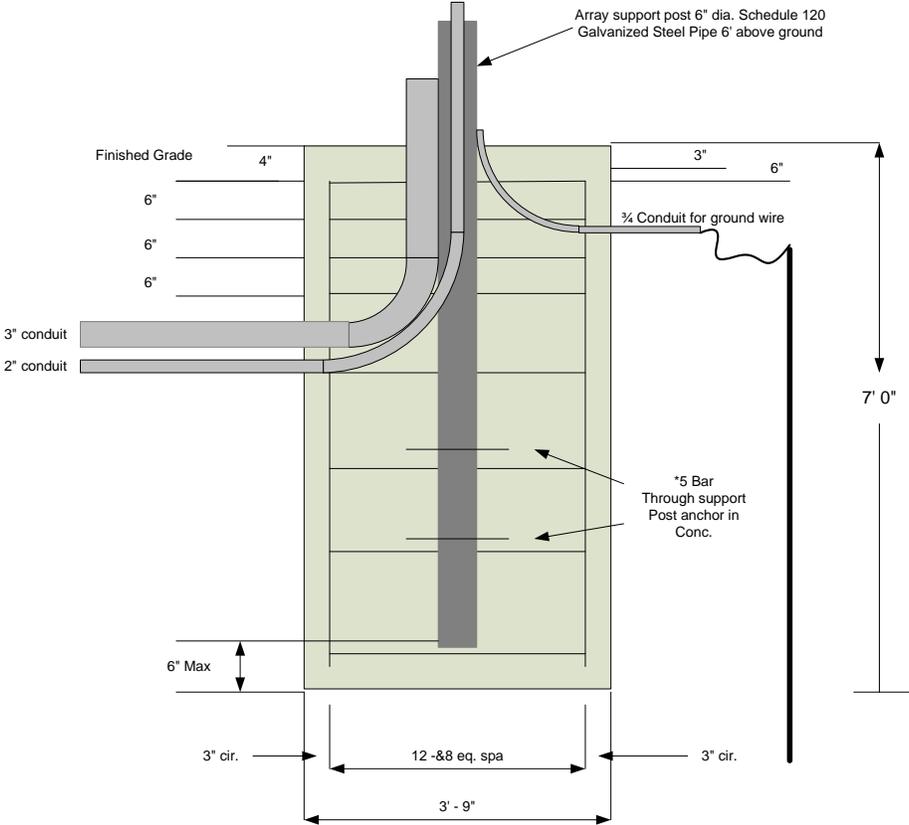


DETAIL OF STANDARD WASHER

NOTES:  
 ALL HARDWARE IS TO BE GALVANIZED IN ACCORDANCE WITH THE SPECIFICATIONS.  
 THE GUARDRAIL AND MEDIAN BARRIER COMPONENTS DEPICTED IN ARTBA TECHNICAL BULLETIN NUMBER 2688 MAY BE SUBSTITUTED IF INTERCHANGEABLE WITH THE STANDARDS FOR GUARDRAIL (GR) OR MEDIAN BARRIER (MB) AND APPROVED BY THE ENGINEER.

SPECIFICATION REFERENCE 221 505	STANDARD GUARDRAIL HARDWARE	VDOT ROAD AND BRIDGE STANDARDS	REVISION DATE 4/09	SHEET 1 OF 3
			VIRGINIA DEPARTMENT OF TRANSPORTATION	

SOLAR ARRAY SUPPORT



**ORDER NO.: G34**  
**CONTRACT ID. NO.: C00097026T11**

**GENERAL NOTES**

**SPECIFICATIONS:**

Design – 1994 AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals* Including current Specifications; and VDOT modifications

Construction – Virginia Department of Transportation Road and Bridge Specification.

**CONCRETE:**

All cast-in-place concrete shall be Class A3 ( $f'c = 3,000$  psi).

All exposed edges shall have  $\frac{3}{4}$  chamfer unless otherwise noted. Construction joint surface preparation shall be in accordance with VDOT specifications section 404.03(h)

**REINFORCING STEEL:**

All reinforcing bar dimensions on the detailed drawings are to the centers of bars except where otherwise noted. \*5 Bar through support post anchor in conc.

Reinforcing bars shall be fabricated in accordance with the reinforcing bars shall be fabricated in accordance with the reinforced concrete Structures" ACI-315. All reinforcement shall have a 2" cover unless otherwise noted.

**STRUCTURAL STEEL:**

Structural steel in array support post shall be ASTM A500 Grade B.

**FOUNDATIONS:**

The footing is designed to exert a maximum foundation pressure of 2000 pounds per square foot. Bottom of the footing shall be located in virgin soil or compacted fill that has been approved by the Geotechnical Engineer or the Project inspector to be adequate to support the design bearing pressure prior to placement of footing concrete. If required subgrade shall be prepared by removing unsuitable material backfill with select material as directed by the Geotechnical Engineer or Project Inspector.

**CONSTRUCTION NOTES:**

The structure is to be located in the field as shown on the site plans or as directed by the Project Engineer.

**Pay Item:**

Foundation shall include excavation for the foundation, back fill and restoration around the foundation, concrete, reinforcing steel, 6" diameter Schedule 120 Galvanized steel pipe,  $\frac{3}{4}$ ", 2", 3" conduit and ground rod.