

Contract No.:



U S DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

EASTERN FEDERAL LANDS HIGHWAY DIVISION

**MULLIGAN ROAD
(FORT BELVOIR CONNECTOR ROAD)**

PROJECT VA A-AD-48(1)

SOLICITATION

RFP NO.: DTFH71-08-R-00012

**This Contract Cites
Standard Specifications FP-03
U.S. Customary Units**

**CONTRACTOR:
ADDRESS:**

STATE: VIRGINIA

COUNTY: FAIRFAX

PARK / REFUGE / BASE: FORT BELVOIR

ROADWAYS:	STATIONS	FEET
Mulligan Road	149+00 to 234+50	8,550

PROJECT LENGTH TOTAL: 8,550' = 1.62 miles

TYPE OF IMPROVEMENT:

Grading, drainage, and placement of aggregate base on Mulligan Road from Pole Road to Telegraph Road, bridges over Kingman Road and Piney Run, and other miscellaneous work.

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***BOLD FACED ITEMS ARE TO BE INCLUDED WITH THE BID SUBMITTAL PACKAGE**

NOTICE TO OFFERORS

CONTRACT FORMAT: Offerors should note that the format of this contract is in accordance with Federal Acquisition Regulations (FAR), promulgated by the General Services Administration (GSA), effective April 1, 1984, including all applicable revisions. Applicable FAR provisions and clauses are incorporated in this contract by reference or full text as indicated in the INDEX before the D-page in this booklet. FAR provisions and clauses incorporated by reference can be accessed on the Internet on the GSA website at www.arnet.gov/far/. Offerors are encouraged to review the documents thoroughly before submitting proposal.

PROPOSAL BOOKLET AND OFFER SUBMITTAL:

It is the responsibility of the Offeror to verify that this proposal is complete as listed in the Table of Contents. The Offeror is responsible for submitting all required forms and documents with the offer. Offerors should use the Checklist for Offer Submittal included in this booklet to check that their proposals are complete. **New Questionnaire Form on Calendar Days with required signature.**

CONSTRUCTION CONTRACTS:

As stated in FAR Clause 52.236-1, the **Contractor shall perform on the site, and with its own organization, work equivalent to at least 50%**. Additional guidance is given in FAR Subpart 35.005 where the majority of the project work is complex and specialized such as restoration work, bridge painting, and proprietary construction techniques (i.e. proprietary Cintec arch strengthening.) There are exceptions and they will be reviewed on a case-by-case basis.

HAZARDOUS MATERIALS IDENTIFICATION AND MATERIAL SAFETY DATA:

As required by FAR Clause 52.223-3, Hazardous Materials Identification and Safety Data, the apparent low Offeror must submit prior to award a Material Safety Data Sheet (MSDS's) for all hazardous materials that the Offeror identifies in paragraph (b) of this clause in the D-pages of this booklet. Failure to submit MSDS's may render the Offeror ineligible for award of contract.

ATTENTION LARGE BUSINESSES - UTILIZATION OF SMALL BUSINESS CONCERNS:

Large business Offerors should note their responsibilities in the awarding of subcontracts in accordance with FAR Clause 52.219-8, Utilization of Small Business Concerns. The offeror, if a large business concern, should note its responsibility to establish and conduct a Subcontracting Plan in accordance with FAR Clause 52.219-9, Alternate I, Small Business Subcontracting Plan. If the apparent Low Offeror is a LARGE BUSINESS it will be required to submit a Subcontracting Plan within 2 weeks of receipt of request from the Contracting Officer. If the apparent low offeror fails to submit a subcontracting plan acceptable to the Contracting Officer within the allowable time, the offeror may be ineligible for award of the contract. PLEASE NOTE: A sample plan is included in this solicitation package for your use.

FINANCING ASSISTANCE: Minority, Women-owned, and Disadvantaged Business Enterprises (DBE's). The Department of Transportation (DOT) offers working capital financing assistance for transportation related contracts. DOT's Short-Term Lending Program (STLP) offers lines of credit to finance accounts receivable. Maximum line of credit is \$750,000 with interest at the prime rate. For further information, call (800) 532-1169. Internet address: <http://osdbuweb.dot.gov>.

INTERNET BASED DATA BASES - REQUIRED INPUT: According to the FAR Subpart 4.1102 contractors **MUST** be registered in Central Contractor Registration (CCR) **prior** to the award of any contract. Access the following web site to register: www.ccr.gov

According to the FAR Subpart 4.1201 contractors **MUST** complete their Online Annual Representations and Certifications Application (ORCA) **prior** to the closing date of the RFP on line at <http://orca.bpn.gov/>.

According to the FAR Subpart 22.1302 (b) contractors and sub-contractors **MUST** complete the required Annual Vets-100 Form in order to be eligible for a contract award. It can be completed on-line at <http://vets100.cudenver.edu/>.

NOTICE TO OFFERORS - (CONT'D.)

This should be completed before submitting a bid package.

PAYMENT:

Offerors are advised to review the Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP), subsection 109.05, concerning **direct** and **indirect** payment included under a pay item in the bid schedule.

PROGRESS PAYMENTS:

ALL payments will be made via Electronic Funds Transfer (EFT) as such; the payment information in the CCR must be accurate in order for contractors' invoices to be considered proper invoices for the purpose of prompt payment under DOT contracts. Contractors must input and maintain (update as necessary) their EFT information in the CCR database. Offerors are advised that under FAR Clause 52.232-5, Payments Under Fixed Price Construction Contracts, upon request, progress payments will include premiums paid by the Contractor to obtain performance and payment bonds as required under this contract. These payments shall not be made in addition to the contract price. As specified in the FP, "Section 151 - MOBILIZATION", payments for performance and payment bond premiums shall be included in mobilization.

WELFARE-TO-WORK INITIATIVE:

The President's Welfare Reform Bill was initiated to assist welfare recipients and hopefully aid welfare recipients to find gainful employment. In support of this bill, Contractors are encouraged to hire welfare recipients whenever possible and to use welfare recipients in performance of duties on Government contracts.

INCREASING SEAT BELT USE IN THE UNITED STATES:

The President's Executive Order 13043 dated April 16, 1997, was issued to increase the use of seat belts in the United States. In support of this Order, contractors and subcontractors are encouraged to adopt and enforce on-the-job seat belt policies for their employees when operating company-owned, rented, or personally owned vehicles.

OBTAINING PROPOSAL DOCUMENTS:

RFP documents **will not be** mailed. All documents are available for direct download from the Federal Business Opportunities (FBO) website:

<https://www.fbo.gov/index?s=opportunity&mode=list&tab=list&cck=1&au=&ck=>

Type DTFH71 in Keywords/Sol. # Block then click on GO, or the Eastern Federal Lands Highway Division website: <http://www.efl.fhwa.dot.gov/contracting/Documents.aspx>

Contractors are encouraged to register on the FBO website (for this specific project) in order to receive Email Notifications automatically when a document is added or updated for this specific project. All questions about this construction project must be emailed to the following address:

eflhd.contracts@fhwa.dot.gov.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MONITORING THE WEB PAGES NOTED ABOVE FOR ALL CHANGES TO THE SOLICITATION AND ACTING ON SAID CHANGES.

CHECKLIST FOR BID SUBMISSION

1. Bid Envelope:

- a. Addressed as shown in Block 8 of Page A-1
- b. In lower left corner, indicate Solicitation No., Project Name & Number, time for Receipt of Offers and send to Room 105.

2. Standard Form 1442: Solicitation, Offer and Award (Pages A-1 and A-2)

- a. Block 14: Name and Address of Offeror.
- b. Block 15: Telephone Number of Offeror.
- c. Block 16: Remittance Address if different from Block 14.
- d. Block 19: All Amendments Acknowledged, with dates of Amendments.
- e. Block 20: Bid is signed and dated.

3. Bid Schedule - (Pages B-1 through B-14)

- a. Unit proposal price and proposal amount provided for each pay item in numbers.
- b. Corrections initialed.
- c. Price Evaluation eligibility is indicated on the Proposal Summary page.

4. Standard Form 24, Bid Bond (Pages C-1 through C-2) (Required if bid guarantee is bid bond)

- a. Date executed
- b. Legal name and address of Offeror.
- c. Type of organization.
- d. State of incorporation (if applicable).
- e. Name and business address of Treasury approved surety.
- f. Penal sum of bond (not less than 20% of proposal total).
- g. Proposal identification.
- h. Signature of Offeror
- i. Seal, if corporation
- j. Signature of Surety
- k. Seal, if corporation

PROPOSALS RECEIVED WITHOUT A VALID BID BOND WILL BE REJECTED.

5. Power of Attorney.

- a. Dated on or before execution date of bond
- b. Power has original signature of surety, or is embossed with surety's seal in the certification section

PROPOSALS RECEIVED WITHOUT A VALID POWER OF ATTORNEY WILL BE REJECTED.

6. Fill In's. The following full text Clauses and/or Provision numbers shall be checked or filled in and return with the proposal package:

- a. 52.219-4 – HubZone ONLY - See Section F, Clause 52-219-4, paragraph "C",

CHECKLIST FOR BID SUBMISSION

check block if wavier is applicable.

7. Offeror's Qualifications form (provided separately as part of the proposal Documents Package). Form completed, signed and submitted with proposal

8. Offeror's Questionnaire on Calendar Days signature required (if not completed proposal shall be found non-responsive).

9. Sub-Contracting Plan - Large Businesses Only: Submittal with the proposal is not mandatory, **but it is encouraged**, as it will speed up the award process should your firm be the apparent low proposal.

THE FOLLOWING THREE ITEMS ARE NOT TO BE SUBMITTED WITH THE BID; BUT FAILURE TO COMPLETE THE REQUIREMENTS WILL BE CAUSE TO REJECT THE PROPOSAL.

10. Central Contractor Registration (CCR): The Contractor is currently registered in the Internet-Based CCR database at <http://www.ccr.gov>.

11. Online Representations and Certifications Application (ORCA): The Contractor's Representations and Certifications have been input online via the Internet-Based ORCA electronic database at <http://orca.bpn.gov>.

12. Vets100 Reporting: The Contractor has completed the annual Internet-Based reporting requirement online at <http://vets100>.

NOTE: THE CONTRACTOR IS FULLY RESPONSIBLE TO VERIFY THAT ALL DATA IN THE THREE DATABASES IS CORRECT EACH TIME A PROPOSAL PACKAGE IS SUBMITTED. FAILURE PROPERLY INPUT AND/OR UPDATE YOUR DATA MAY CAUSE THE PROPOSAL TO BE REJECTED.

Offerors Qualification questionnaire regarding the preparation of the bid for time:

- 1) Does the Proposal for time include the impact of normal weather conditions on the work of the Contract?
- 2) Does the Proposal for time include the impact of the terms of the Contract Specifications regarding work restrictions - including all identified delays, suspensions, and shut-downs?
- 3) Does the Proposal for time include sufficient time to allow that all contract work can be completed within contract time without the imposition of liquidated damages?
- 4) Does the Proposal for time include time for the review and approval process for all submittals required by the Contract?
- 5) Does the Proposal for time include time for the review and approval process for required drawings submitted under Subsection 104.03 of the Specifications?
- 6) Does the Proposal for time include the lead time required for the procurement, manufacture, and delivery of materials that are to be incorporated into the Contract work?
- 7) Does the Proposal for time include sufficient time to accommodate the fact that the date of Notice to Proceed is conditional upon the Government awarding the contract up to 60 days after the bid opening?
- 8) Does the Proposal for time include the 14 days after the award of the Contract that the Contractor has to provide Performance and Payment bonds?
- 9) Does the Proposal for time include sufficient time to accommodate the fact that the Contracting Officer has up to 30 days after receipt of acceptable Performance and Payment bonds to issue the Notice to Proceed?

I hereby certify that the answer to each and every one of the questions listed above is yes.

Signature of Authorized Representative

Title

Date

Note: If the questionnaire is not signed the Proposal shall be found non-responsive and rejected.

SOLICITATION, OFFER, AND AWARD <i>(Construction, Alteration, or Repair)</i>	1. Solicitation No. DTFH71-08-R-00012	2. Type of Solicitation <input type="checkbox"/> Sealed Bid (IFB) <input checked="" type="checkbox"/> Negotiated (RFP)	3. Date Issued 07/16/2008	Page of Pages 1 OF 4
	IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.			

4. Contract No.	5. Requisition/Purchase Request No.	6. Project No. VA-A-AD - 48(1)
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7. Issued By: Federal Highway Administration Eastern Federal Lands Highway Division Loudoun Tech Center, Room 105 21400 Ridgetop Circle Sterling, Virginia 20166-6511	CODE: N/A:	8. Address Offer To: See Block 7
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9. FOR INFORMATION See Blocks 9A & 9B	A. Name: Peggy Schaad	B. Telephone No. (Include area code) (NO COLLECT CALLS) Email All Questions/Inquiries To: eflhd.contracts@fhwa.dot.gov
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See Continuation of SF 1442

SOLICITATION

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder"

10. The Government requires performance of the work described in these documents (title, identifying no., date): This Request for Proposal is for the Mulligan Road (Fort Belvoir Connector Road), located in Fairfax County, Virginia in strict accordance with the Solicitation/Contract instructions, notices, clauses, provisions, *items listed below, and for the quantities of work actually performed at the unit prices as proposed in the Bid Schedule, including all applicable Federal, State, and local taxes.
- * FP - Standard Specification for Construction of Roads & Bridges on Federal Highway Projects.
 - * Bid Schedule, Section B - pages B-1 through B-14.
 - * Special Contract Requirements, Section J - pages J-1 through J-61.
 - * Plans (Drawings), Sheets 1 through 335.
 - * Soil and Foundation Report, pages 1 through 554.
 - * Hydraulic Report, Pages 1 through 407.

11. The Contractor shall begin performance within **10** calendar days and complete it within calendar days after receiving
- Award, Notice to Proceed. This performance period is mandatory, negotiable. (See *Continuation Sheet)

12A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? (If "YES," indicate within how many calendar days after award in Item 12B.) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO SEE SUBSECTION 102.06 OF FP.	12B. CALENDAR DAYS Within 14 calendar days after Notice of Award
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13. ADDITIONAL SOLICITATION REQUIREMENTS:

- a. Offers in original and **0** copies to perform the work required are due at the place specified in Item 8 by **2:00 PM** local time **8/19/08**. If this is a sealed bid solicitation, offers will be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.
- b. An offer guarantee is, is not required.
- c. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.
- d. Offers providing less than **60** calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

OFFER (Must be fully completed by offeror)

14. Name and Address of Offeror (Include ZIP code)	15. Telephone No. (Include area code)
	16. Remittance Address (Include only if different than Item 14)
CODE	FACILITY CODE

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation if this offer is accepted by the Government in writing within ___ calendar days after the date offers are due. (Insert any number equal to or greater than the minimum requirement stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.

AMOUNTS ➡ See Bid Schedule - Section "B" Pages

18. The offeror agrees to furnish any required performance and payment bonds.

19. ACKNOWLEDGEMENT OF AMENDMENTS
(The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

AMENDMENT NO.								
DATE								

20a. Name and title of person authorized to sign offer (Type or print)	20B. Signature	20C. Offer Date
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AWARD (To be completed by Government)

21. Items Accepted:

22. Amount	23. Accounting and appropriation data
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24. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM See Block 26	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO <input type="checkbox"/> 15 USC 637(a)) <input type="checkbox"/> 41 USC 253(c) ()
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26. ADMINISTERED BY Federal Highway Administration Eastern Federal Lands Highway Division 21400 Ridgetop Circle Sterling, Virginia 20166-6511	27. PAYMENT WILL BE MADE BY: Federal Highway Administration Eastern Federal Lands Highway Division Finance Division, Room 357 21400 Ridgetop Circle Sterling, Virginia 20166-6511
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CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

<input type="checkbox"/> 28. NEGOTIATED AGREEMENT (Contractor is required to sign this document and return ___ copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all work requirements identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract.	<input type="checkbox"/> 29. AWARD (Contractor is not required to sign this document.) Your offer on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.
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30a. Name and Title of Contractor or Person Authorized to Sign (Type or print)	31a. Name of Contracting Officer (Type or print)
30b. Signature	31b. United States of America BY
30C. Date	31C. Date

CONTINUATION OF SF 1442

Block 2:

This project is **UN-RESTRICTED** - Bids will be accepted from **ALL** eligible business concerns.

This procurement is made pursuant to Public Law 100-656 Title VII, which established the Small Business Competitiveness Demonstration Program. This procurement falls under North American Industry Classification System (NAICS) code 237310 - Highway, Street, and Bridge Construction (see FAR Subpart 19.10)

The award of this project is subject to a 10% price evaluation preference for eligible HubZone Small Business Concerns (must be on the SBA listing) (see FAR Clause 52.219-4).

Facsimile and electronic bids will not be accepted.

PHYSICAL DATA AVAILABLE FOR REVIEW

1. Manual on Uniform Traffic Control Devices for Streets and Highways, 2003 Edition, published by the Federal Highway Administration. <http://mutcd.fhwa.dot.gov>.
2. National Park Service Sign Manual, revised - January 1988, United States Department of the Interior. <http://www.nps.gov/npsigns>.
3. Soils and Foundation Report
4. Permits
5. Utility Agreement

Block 9:

In accordance with FAR Provision 52.236-27, Site Visit, a Government representative can be available to show the project to prospective bidders. **All requests** for site visits see Section E of the solicitation and e-mail all questions concerning this construction project to the

following e-mail address eflhd.contracts@fhwa.dot.gov. Interested parties must provide the Solicitation Number and the relevant project name with all requests and questions.

*Block 11:

The maximum time for **Schedule A and Option B** shall not exceed* **967** Calendar days.

Award will be made to an offeror whose technical submittal and price proposal contain the combination of the technical qualifications (past performance of same type of projects) and price that offers the best value to the Government. Offerors are reminded that while the Government may elect to consider data obtained from other sources, the burden of proof of acceptability rests with the offeror.

The completion time for the contract will be the time offered by the successful bidder, **not to exceed** the maximum time above. **Contract Award/NTP is subject to receipt of permits.**

Notice to Proceed, or date specified in the Notice to Proceed will be issued within 30 days

CONTINUATION OF SF 1442

following receipt of acceptable performance and payment bonds.

Block 12A:

Furnish performance and payment bonds in accordance with FAR Clause 52.228-15.

Block 13:

A bid guarantee in the amount of not less than 20 percent of the bid price or \$3 million, whichever is less, is required with this bid. If the bidder fails to provide the required bid guarantee, such failure may require rejection of the bid. Reference FAR Provision 52.228-1, Bid Guarantee.

Other:

The estimated price is expected to fall within the price range of greater than \$10,000,000.

Responsibility of bidders shall be evaluated in accordance with the information provided on the Bidder's Qualification Form, which can be downloaded from FHWA web site. FP-96 or FP-03 versions can be downloaded at the FHWA web site. FHWA web site is <http://www.efl.fhwa.dot.gov/contracting/Documents.aspx>.

Subcontracting Goals

Required from all other than Small business when the requirement is expected to exceed \$500,000 [FAR 19.702]. The Contracting Officer, along review and advisory comments from the Office of Small Disadvantaged Business Utilization (OSDBU), is responsible for approving a reasonable and realistic plan [FAR 19.705-4] [TAM 1219.201(e)(6)]. The legislated subcontracting goals are as shown below. A copy of each subcontracting plan (or contractor statement that no subcontracts are to be awarded) must be provided to OSDBU prior to close of negotiations [TAM 1219.705-5 and - 6].

Legislated subcontracting goals: (15 USC 644 (g)(1))

- 5% Small Disadvantaged Businesses (SDB)
- 5% Small Woman Owned Business Entities (SWBE)
- 3% Service-Disabled Veteran-Owned Small Businesses (SDVOSB)

BID SCHEDULE INSTRUCTIONS

PROJECT: VA A-AD-48(1)

BIDDERS PLEASE NOTE: Before preparing the bid, carefully read the Instructions to Bidders. While preparing the bid, comply with the following:

COMPLETING THE BID SCHEDULE

Complete the Bid Schedule(s) by handwriting in ink or typing. Specify a Unit Bid Price, in figures with cents to only two decimal places, for each pay item in the Unit Bid Price column for which a quantity is given. Do not enter or tender a Unit Bid Price for any pay item for which no estimated quantity appears in the Bid Schedule. Determine the products of the respective unit prices and quantities, and show them, in figures, in the Amount Bid column. If a Unit Bid Price and Amount Bid have been inserted by the Government for a pay item, do not change the Unit Bid Price and Amount Bid for the pay item. Determine the Bid Total by adding the amounts of the several items, and show in the block provided on **Page B-10 for Schedule A** and **Page B-13 for Schedule B**. In case of multiplication errors, the Amount Bid for the item will be based on the Unit Bid Price.

To be eligible for award, bidders must submit prices for each pay item.

Review Subsection 109.05 of the FP regarding scope of payment for direct and indirect payment work.

SCHEDULES OF WORK

The Bid Schedule is comprised of the following separate schedules and options of work:

- | | |
|-------------------|---|
| Schedule A | – Consists of the grading, drainage, and aggregate base for Mulligan Road from Pole Road to Telegraph Road, including the bridge over Piney Run, and other miscellaneous work. |
| Schedule B | – Consists of the construction of the southbound bridge over Kingman Road and other miscellaneous work. |

The purpose of the multiple schedules is to give the Government maximum flexibility in completing the project in a timely manner and at a cost-effective price, by proper utilization of available fund.

BIDDING OF CALENDAR DAYS

For Schedule A + Schedule B, determine the number of calendar days necessary to complete the work from Notice To Proceed to contract completion (it is assumed that Schedule B will be constructed concurrently with Schedule A, therefore providing the number of calendar days

necessary to complete Schedule B is not required). **Specify the number of calendar days (NOT to exceed the maximum number of calendar days shown in Block 11 of the SF-1442) in the space provided on the Bid Summary page.** Failure to specify a number of calendar days for contract completion indicates the bidder accepts the maximum contract time provided in Block 11 of the SF-1442.

In developing a construction schedule to determine the number of calendar days included in their bid, bidders should include the work limitations shown in the Special Contract Requirements (SCR's). Specific work limitations may be (but are not limited to): holidays, weekends; rush hours; night work; no work periods; work or traffic control phasing. Bidders are advised to consider those work items that are weather sensitive and when those work items will be performed. Specific work items are (but not limited to): those that require a minimum ambient air temperature (asphalt paving and surface treatment, pavement striping, stone masonry); those that require maintaining a minimum surface temperature (concrete pavement, structural concrete, painting); and those that have specific planting seasons (turf establishment, sod, trees and plants). Bidders are also advised to consider time required for preparing material and drawing submittals, and the allowable Government review times for those submittals (Subsection 104.03 of the FP and SCR's). The total calendar days bid should also include any work limitations and any delay days or contractor winter shutdowns required due to weather sensitive work items.

When evaluating the bids, the Government will consider the Contract Administrative Cost for the project to be \$3,300 per calendar day bid. The Contract Administrative Cost is only used to determine the Evaluation Total Price of Project.

Add the **Bid Total(s)** and the **Contract Administrative Cost(s)** for each schedule of work as directed on the **Bid Summary** page(s). Show the **Evaluation Total Price of Project** in the space provided on the **Bid Summary** page.

BASIS FOR AWARD

The contract will be awarded to the responsive, responsible bidder with the lowest **Evaluation Total Price of Project**, which is defined as:

Bid Total of Schedule A + Bid Total of Schedule B + Contract Administrative Cost of Schedule A.

The number of calendar days specified by the successful bidder for the completion of the elected combination will become the performance period for the contract.

NOTE: Contract Administration Cost is used for evaluation and ranking purposes only.

Bid Schedule

Project: VA A-AD-48(1)
MULLIGAN ROAD (FORT BELVOIR CONNECTOR ROAD) – SCHEDULE A

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
15101-0000	MOBILIZATION		
	ALL	Lump Sum	\$ _____
15201-0000	CONSTRUCTION SURVEY AND STAKING		
	ALL	Lump Sum	\$ _____
15401-0000	CONTRACTOR TESTING		
	ALL	Lump Sum	\$ _____
15501-0000	CONSTRUCTION SCHEDULE		
	ALL	Lump Sum	\$ _____
15705-0100	SOIL EROSION CONTROL, SILT FENCE		
	8,000		
	LNFT	\$ _____	\$ _____
15705-0100	SOIL EROSION CONTROL, SILT FENCE (SUPER SILT FENCE)		
	3,700		
	LNFT	\$ _____	\$ _____
15705-0400	SOIL EROSION CONTROL, EARTH BERMS		
	9,200		
	LNFT	\$ _____	\$ _____
15705-0500	SOIL EROSION CONTROL, TEMPORARY CULVERT PIPE		
	250		
	LNFT	\$ _____	\$ _____
15705-1300	SOIL EROSION CONTROL, TEMPORARY DIVERSION CHANNEL		
	150		
	LNFT	\$ _____	\$ _____
15706-0200	SOIL EROSION CONTROL, CHECK DAM		
	34		
	EACH	\$ _____	\$ _____
15706-0300	SOIL EROSION CONTROL, SANDBAG		
	800		
	EACH	\$ _____	\$ _____

Bid Schedule A

Project: VA A-AD-48(1)
MULLIGAN ROAD (FORT BELVOIR CONNECTOR ROAD) – SCHEDULE A

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
15706-0500	SOIL EROSION CONTROL, INLET SEDIMENT TRAP (TY. A) 6 EACH	\$ _____	\$ _____
15706-0500	SOIL EROSION CONTROL, INLET SEDIMENT TRAP (TY. B) 68 EACH	\$ _____	\$ _____
15706-0600	SOIL EROSION CONTROL, RISER PIPE ASSEMBLY (TEMP. SEDIMENT BASIN) 2 EACH	\$ _____	\$ _____
15706-0600	SOIL EROSION CONTROL, RISER PIPE ASSEMBLY (SWM STRUCTURES) 3 EACH	\$ _____	\$ _____
20101-0000	CLEARING AND GRUBBING 38.0 ACRE	\$ _____	\$ _____
20301-0400	REMOVAL OF BRIDGE 1 EACH	\$ _____	\$ _____
20301-2700	REMOVAL OF STRUCTURE (CONCRETE BUNKER) 1 EACH	\$ _____	\$ _____
20302-0900	REMOVAL OF FENCE, CHAIN LINK 600 LNFT	\$ _____	\$ _____
20302-1200	REMOVAL OF GUARDRAIL 135 LNFT	\$ _____	\$ _____
20310-1000	PLUG, EXISTING PIPE (TEMP. NEW PIPE PLUG) 1 EACH	\$ _____	\$ _____
20402-0000	SUBEXCAVATION 8,000 CUYD	\$ _____	\$ _____
20410-0000	SELECT BORROW 8,000 CUYD	\$ _____	\$ _____

Bid Schedule A

Project: VA A-AD-48(1)

MULLIGAN ROAD (FORT BELVOIR CONNECTOR ROAD) – SCHEDULE A

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
20420-0000	EMBANKMENT CONSTRUCTION		
	166,000 CUYD	\$ _____	\$ _____
20701-1000	EARTHWORK GEOTEXTILE, TYPE III-A		
	16,000 SQYD	\$ _____	\$ _____
20701-1400	EARTHWORK GEOTEXTILE, TYPE IV-C		
	1,400 SQYD	\$ _____	\$ _____
20801-0000	STRUCTURE EXCAVATION		
	300 CUYD	\$ _____	\$ _____
20803-0000	STRUCTURAL BACKFILL		
	450 CUYD	\$ _____	\$ _____
25102-2000	PLACED RIPRAP, CLASS 2		
	150 TON	\$ _____	\$ _____
25102-3000	PLACED RIPRAP, CLASS 3		
	2,400 TON	\$ _____	\$ _____
25102-4000	PLACED RIPRAP, CLASS 4		
	160 TON	\$ _____	\$ _____
25302-2000	GABIONS, POLYVINYL CHLORIDE COATED		
	125 CUYD	\$ _____	\$ _____
30101-4000	AGGREGATE BASE GRADING C OR D		
	36,500 TON	\$ _____	\$ _____
55101-0800	PRECAST PRESTRESSED CONCRETE PILES, 18-INCH X 18-INCH, IN PLACE		
	5,580 LNFT	\$ _____	\$ _____
55101-1000	PRECAST PRESTRESSED CONCRETE PILES, 24-INCH X 24-INCH, IN PLACE		
	1,710 LNFT	\$ _____	\$ _____

Bid Schedule A

Project: VA A-AD-48(1)

MULLIGAN ROAD (FORT BELVOIR CONNECTOR ROAD) – SCHEDULE A

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
55104-1000	DYNAMIC PILE LOAD TEST 3 EACH	\$ _____	\$ _____
55120-0000	TEST PILES 300 LNFT	\$ _____	\$ _____
55201-0200	STRUCTURAL CONCRETE, CLASS A (AE) 480 CUYD	\$ _____	\$ _____
55201-1100	STRUCTURAL CONCRETE, CLASS HPC 680 CUYD	\$ _____	\$ _____
55202-1000	STRUCTURAL CONCRETE, CLASS D (AE), FOR APPROACH SLABS, TYPE 1 260 SQYD	\$ _____	\$ _____
55401-1000	REINFORCING STEEL 44,000 LB	\$ _____	\$ _____
55401-2000	REINFORCING STEEL, EPOXY COATED 191,000 LB	\$ _____	\$ _____
55502-0000	STRUCTURAL STEEL, FURNISHED, FABRICATED, AND ERECTED 442,000 LB	\$ _____	\$ _____
55601-0500	BRIDGE RAILING, CONCRETE 242 LNFT	\$ _____	\$ _____
55601-1200	BRIDGE RAILING, STEEL, THREE RAIL 223 LNFT	\$ _____	\$ _____
56401-1000	BEARING DEVICE, ELASTOMERIC 27 EACH	\$ _____	\$ _____
60103-0020	CONCRETE, HEADWALL FOR 6-INCH PIPE CULVERT 3 EACH	\$ _____	\$ _____

Bid Schedule A

Project: VA A-AD-48(1)

MULLIGAN ROAD (FORT BELVOIR CONNECTOR ROAD) – SCHEDULE A

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
60103-0080	CONCRETE, HEADWALL FOR 15-INCH PIPE CULVERT 7 EACH	\$ _____	\$ _____
60103-0100	CONCRETE, HEADWALL FOR 18-INCH PIPE CULVERT 3 EACH	\$ _____	\$ _____
60103-0140	CONCRETE, HEADWALL FOR 24-INCH PIPE CULVERT 1 EACH	\$ _____	\$ _____
60103-0160	CONCRETE, HEADWALL FOR 30-INCH PIPE CULVERT 1 EACH	\$ _____	\$ _____
60103-0240	CONCRETE, HEADWALL FOR 54-INCH PIPE CULVERT 4 EACH	\$ _____	\$ _____
60103-1980	CONCRETE, HEADWALL FOR 42-INCH EQUIVALENT DIAMETER PIPE CULVERT 2 EACH	\$ _____	\$ _____
60201-0500	15-INCH PIPE CULVERT 5,000 LNFT	\$ _____	\$ _____
60201-0600	18-INCH PIPE CULVERT 1,500 LNFT	\$ _____	\$ _____
60201-0800	24-INCH PIPE CULVERT 350 LNFT	\$ _____	\$ _____
60201-0900	30-INCH PIPE CULVERT 450 LNFT	\$ _____	\$ _____
60201-1300	54-INCH PIPE CULVERT 300 LNFT	\$ _____	\$ _____
60202-0200	18-INCH EQUIVALENT DIAMETER ARCH OR ELLIPTICAL PIPE CULVERT 250 LNFT	\$ _____	\$ _____

Bid Schedule A

Project: VA A-AD-48(1)

MULLIGAN ROAD (FORT BELVOIR CONNECTOR ROAD) – SCHEDULE A

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
60202-0400	24-INCH EQUIVALENT DIAMETER ARCH OR ELLIPTICAL PIPE CULVERT 100 LNFT	\$ _____	\$ _____
60202-0500	30-INCH EQUIVALENT DIAMETER ARCH OR ELLIPTICAL PIPE CULVERT 60 LNFT	\$ _____	\$ _____
60202-0700	42-INCH EQUIVALENT DIAMETER ARCH OR ELLIPTICAL PIPE CULVERT 130 LNFT	\$ _____	\$ _____
60220-4150	12 FEET SPAN, 10 FEET RISE PRECAST REINFORCED CONCRETE BOX CULVERT 132 LNFT	\$ _____	\$ _____
60403-0000	INLET (VDOT STD. DI-1) 2 EACH	\$ _____	\$ _____
60403-0000	INLET (VDOT STD. DI-3A) 7 EACH	\$ _____	\$ _____
60403-0000	INLET (VDOT STD. DI-3B L=4') 6 EACH	\$ _____	\$ _____
60403-0000	INLET (VDOT STD. DI-3B L=6') 11 EACH	\$ _____	\$ _____
60403-0000	INLET (VDOT STD. DI-3B L=8') 17 EACH	\$ _____	\$ _____
60403-0000	INLET (VDOT STD. DI-3B L=10') 5 EACH	\$ _____	\$ _____
60403-0000	INLET (VDOT STD. DI-3B L=12') 3 EACH	\$ _____	\$ _____
60403-0000	INLET (VDOT STD. DI-3B L=14') 2 EACH	\$ _____	\$ _____

Bid Schedule A

Project: VA A-AD-48(1)

MULLIGAN ROAD (FORT BELVOIR CONNECTOR ROAD) – SCHEDULE A

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
60403-0000	INLET (VDOT STD. DI-3BB L=4') 5 EACH	\$ _____	\$ _____
60403-0000	INLET (VDOT STD. DI-3BB L=6') 3 EACH	\$ _____	\$ _____
60403-0000	INLET (VDOT STD. DI-3BB L=8') 2 EACH	\$ _____	\$ _____
60403-0000	INLET (VDOT STD. DI-3C L=6') 7 EACH	\$ _____	\$ _____
60403-0000	INLET (VDOT STD. DI-5) 1 EACH	\$ _____	\$ _____
60403-0000	INLET (VDOT STD. DI-12 L=4') 2 EACH	\$ _____	\$ _____
60403-0000	INLET (VDOT STD. DI-12 L=6') 1 EACH	\$ _____	\$ _____
60410-0000	SPRINGBOX (SPRING DRAIN) 11 EACH	\$ _____	\$ _____
60501-0000	STANDARD UNDERDRAIN SYSTEM (VDOT UD-1) 3,300 LNFT	\$ _____	\$ _____
60501-0000	STANDARD UNDERDRAIN SYSTEM (VDOT UD-2) 8,100 LNFT	\$ _____	\$ _____
60501-0000	STANDARD UNDERDRAIN SYSTEM (VDOT UD-4) 8,500 LNFT	\$ _____	\$ _____
60501-0000	STANDARD UNDERDRAIN SYSTEM (VDOT CD-1) 320 LNFT	\$ _____	\$ _____

Bid Schedule A

Project: VA A-AD-48(1)

MULLIGAN ROAD (FORT BELVOIR CONNECTOR ROAD) – SCHEDULE A

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
60501-0000	STANDARD UNDERDRAIN SYSTEM (VDOT CD-2) 390 LNFT	\$ _____	\$ _____
60510-1060	10-INCH OUTLET PIPE 50 LNFT	\$ _____	\$ _____
60520-0000	GRANULAR BACKFILL 8,100 CUYD	\$ _____	\$ _____
61103-1500	24-INCH ENCASEMENT PIPE, GALVANIZED STEEL 150 LNFT	\$ _____	\$ _____
61103-1500	24-INCH ENCASEMENT PIPE, GALVANIZED STEEL (36-INCH DIAMETER ENCASEMENT PIPE) 200 LNFT	\$ _____	\$ _____
61401-0000	LEAN CONCRETE BACKFILL 30 CUYD	\$ _____	\$ _____
61901-2100	FENCE, CHAIN LINK, 96-INCH HEIGHT (BARB WIRE, 3 STRAND) 300 LNFT	\$ _____	\$ _____
61902-2200	GATE, METAL, 34 FEET WIDTH 3 EACH	\$ _____	\$ _____
62101-0000	MONUMENT (SETTLEMENT MONITORING) 14 EACH	\$ _____	\$ _____
62401-0300	FURNISHING AND PLACING TOPSOIL, 4-INCH DEPTH 70,000 SQYD	\$ _____	\$ _____
62502-0000	TURF ESTABLISHMENT 70,000 SQYD	\$ _____	\$ _____
62901-1000	ROLLED EROSION CONTROL PRODUCT, TYPE 3.B 9,200 SQYD	\$ _____	\$ _____

Bid Schedule A

Project: VA A-AD-48(1)

MULLIGAN ROAD (FORT BELVOIR CONNECTOR ROAD) – SCHEDULE A

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
62901-1200	ROLLED EROSION CONTROL PRODUCT, TYPE 5.A 4,100 SQYD	\$ _____	\$ _____
62901-1400	ROLLED EROSION CONTROL PRODUCT, TYPE 5.C 2,200 SQYD	\$ _____	\$ _____
63502-1300	TEMPORARY TRAFFIC CONTROL, DRUM 40 EACH	\$ _____	\$ _____
63502-2100	TEMPORARY TRAFFIC CONTROL, CRASH CUSHION 3 EACH	\$ _____	\$ _____
63502-2700	TEMPORARY TRAFFIC CONTROL, REPLACEMENT CARTRIDGES FOR CRASH CUSHION 3 EACH	\$ _____	\$ _____
63503-0300	TEMPORARY TRAFFIC CONTROL, BARRICADE TYPE 3 40 LNFT	\$ _____	\$ _____
63503-0400	TEMPORARY TRAFFIC CONTROL, CONCRETE BARRIER 625 LNFT	\$ _____	\$ _____
63503-1000	TEMPORARY TRAFFIC CONTROL, PLASTIC FENCE 500 LNFT	\$ _____	\$ _____
63504-1000	TEMPORARY TRAFFIC CONTROL, CONSTRUCTION SIGN 320 SQFT	\$ _____	\$ _____
63506-0500	TEMPORARY TRAFFIC CONTROL, FLAGGER 350 HOUR	\$19.00	\$6,650.00
63701-0000	FIELD OFFICE 1 EACH	\$ _____	\$ _____

Bid Schedule A

Project: VA A-AD-48(1)

MULLIGAN ROAD (FORT BELVOIR CONNECTOR ROAD) – SCHEDULE A

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
64501-0000	LOCATE UTILITIES ALL	Lump Sum	\$ _____

TOTAL \$ _____

Submitted by: _____
Name of Bidder

Bid Schedule

Project: VA A-AD-48(1)
KINGMAN ROAD BRIDGE – SCHEDULE B

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
15101-0000	MOBILIZATION		
	ALL	Lump Sum	\$ _____
15201-0000	CONSTRUCTION SURVEY AND STAKING		
	ALL	Lump Sum	\$ _____
15401-0000	CONTRACTOR TESTING		
	ALL	Lump Sum	\$ _____
20701-1400	EARTHWORK GEOTEXTILE, TYPE IV-C		
	800		
	SQYD	\$ _____	\$ _____
20801-0000	STRUCTURE EXCAVATION		
	300		
	CUYD	\$ _____	\$ _____
20803-0000	STRUCTURAL BACKFILL		
	1,000		
	CUYD	\$ _____	\$ _____
25102-1000	PLACED RIPRAP, CLASS 1		
	700		
	TON	\$ _____	\$ _____
55101-0500	PRECAST PRESTRESSED CONCRETE PILES, 12-INCH X 12-INCH, IN PLACE		
	4,832		
	LNFT	\$ _____	\$ _____
55104-1000	DYNAMIC PILE LOAD TEST		
	2		
	EACH	\$ _____	\$ _____
55120-0000	TEST PILES		
	142		
	LNFT	\$ _____	\$ _____
55201-0200	STRUCTURAL CONCRETE, CLASS A (AE)		
	310		
	CUYD	\$ _____	\$ _____

Bid Schedule B

Project: VA A-AD-48(1)
KINGMAN ROAD BRIDGE – SCHEDULE B

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
55201-0200	STRUCTURAL CONCRETE, CLASS A (AE) 60 CUYD	\$ _____	\$ _____
55201-1100	STRUCTURAL CONCRETE, CLASS HPC 250 CUYD	\$ _____	\$ _____
55202-1000	STRUCTURAL CONCRETE, CLASS D (AE), FOR APPROACH SLABS, TYPE 1 230 SQYD	\$ _____	\$ _____
55401-1000	REINFORCING STEEL 47,000 LB	\$ _____	\$ _____
55401-2000	REINFORCING STEEL, EPOXY COATED 59,000 LB	\$ _____	\$ _____
55401-2500	REINFORCING STEEL, GALVANIZED 3,100 LB	\$ _____	\$ _____
55502-0000	STRUCTURAL STEEL, FURNISHED, FABRICATED, AND ERECTED 198,000 LB	\$ _____	\$ _____
55601-0500	BRIDGE RAILING, CONCRETE 130 LNFT	\$ _____	\$ _____
55601-1200	BRIDGE RAILING, STEEL, THREE RAIL 130 LNFT	\$ _____	\$ _____
56401-1000	BEARING DEVICE, ELASTOMERIC 10 EACH	\$ _____	\$ _____
60203-0200	6-INCH SLOTTED DRAIN PIPE 300 LNFT	\$ _____	\$ _____
60520-0000	GRANULAR BACKFILL 80 CUYD	\$ _____	\$ _____

Bid Schedule B

Project: VA A-AD-48(1)

KINGMAN ROAD BRIDGE – SCHEDULE B

Pay Item No.	Estimated Quantity	Unit Bid Price	Amount Bid
60902-0800	CURB AND GUTTER, CONCRETE, 10-INCH DEPTH 310 LNFT	\$ _____	\$ _____

TOTAL \$ _____

Submitted by: _____
Name of Bidder

BID SUMMARY

Project VA A-AD-48(1)
(Complete for Pages B-1 through B- 13)

(1) Schedule A Bid Total (from Page B-10) \$ _____

(2) Schedule B (Government Option 1) Bid Total (from Page B-13) \$ _____

(3) Contract Administrative Cost for Schedule A

Number of calendar days necessary to complete all Schedule A and Schedule B work from Notice to Proceed (or date specified in the Notice to Proceed) to construction completion. . Schedule B is considered to be constructed concurrently with Schedule A.

_____ calendar days x \$3,300 per calendar day = \$ _____

Total Price of Project (for evaluation purposes only)

(1) Bid Total for Schedule A \$ _____
+ (2) Bid Total for Schedule B \$ _____
+ (3) Contract Administrative Cost for Schedule A \$ _____

= **EVALUATION TOTAL PRICE OF PROJECT** \$ _____

Does the Bidder claim the Price Evaluation Preference for HUBZone Small Business Concerns as defined in FAR Clause 52.219-4?

Yes

No

BID BOND <i>(See instruction on reverse)</i>	DATE BOND EXECUTED <i>(Must not be later than bid opening date)</i>	OMB NO.: 9000-0045
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Public reporting burden for this collection of information is estimated to average 25 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the FAR Secretariat (MVR), Federal Acquisition Policy Division, GSA, Washington, DC 20405.

PRINCIPAL <i>(Legal name and business address)</i>	TYPE OF ORGANIZATION <i>("X" one)</i> <input type="checkbox"/> INDIVIDUAL <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> JOINT VENTURE <input type="checkbox"/> CORPORATION STATE OF INCORPORATION
--	--

SURETY(IES) *(Name and business address)*

PENAL SUM OF BOND					BID IDENTIFICATION	
PERCENT OF BID PRICE	AMOUNT NOT TO EXCEED				BID DATE	INVITATION NO.
	MILLION(S)	THOUSAND(S)	HUNDRED(S)	CENTS		
					FOR <i>(Construction, Supplies, or Services)</i>	

OBLIGATION:

We, the Principal and Surety(ies) are firmly bound to the United States of America (hereinafter called the Government) in the above penal sum. For payment of the penal sum, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally. However, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us. For all other purposes, each Surety binds itself, jointly and severally with the Principal, for the payment of the sum shown opposite the name of the Surety. If no limit of liability is indicated, the limit of liability is the full amount of the penal sum.

CONDITIONS:

The Principal has submitted the bid identified above.

THEREFORE:

The above obligation is void if the Principal - (a) upon acceptance by the Government of the bid identified above, within the period specified therein for acceptance (sixty (60) days if no period is specified), executes the further contractual documents and gives the bond(s) required by the terms of the bid as accepted within the time specified (ten (10) days if no period is specified) after receipt of the forms by the principal; or (b) in the event of failure to execute such further contractual documents and give such bonds, pays the Government for any cost of procuring the work which exceeds the amount of the bid.

Each Surety executing this instrument agrees that its obligation is not impaired by any extension(s) of the time for acceptance of the bid that the Principal may grant to the Government. Notice to the surety(ies) of extension(s) are waived. However, waiver of the notice applies only to extensions aggregating not more than sixty (60) calendar days in addition to the period originally allowed for acceptance of the bid.

WITNESS:

The Principal and Surety(ies) executed this bid bond and affixed their seals on the above date.

PRINCIPAL				
SIGNATURE(S)	1.	2.	3.	<i>Corporate Seal</i>
	<i>(Seal)</i>	<i>(Seal)</i>	<i>(Seal)</i>	
NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.	3.	

INDIVIDUAL SURETY(IES)		
SIGNATURE(S)	1.	2.
	<i>(Seal)</i>	<i>(Seal)</i>
NAME(S) <i>(Typed)</i>	1.	2.

CORPORATE SURETY(IES)			
SURETY A	NAME & ADDRESS	STATE OF INC.	LIABILITY LIMIT (\$)
	SIGNATURE(S)	1.	2.
	NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.

SURETY B	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT (\$)	<i>Corporate Seal</i>
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.		
SURETY C	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT (\$)	<i>Corporate Seal</i>
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.		
SURETY D	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT (\$)	<i>Corporate Seal</i>
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.		
SURETY E	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT (\$)	<i>Corporate Seal</i>
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.		
SURETY F	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT (\$)	<i>Corporate Seal</i>
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.		
SURETY G	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT (\$)	<i>Corporate Seal</i>
	SIGNATURE(S)	1.	2.		
	NAME(S) & TITLE(S) <i>(Typed)</i>	1.	2.		

INSTRUCTIONS

1. This form is authorized for use when a bid guaranty is required. Any deviation from this form will require the written approval of the Administrator of General Services.
2. Insert the full legal name and business address of the Principal in the space designated "Principal" on the face of the form. An authorized person shall sign the bond. Any person signing in a representative capacity (e.g., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved.
3. The bond may express penal sum as a percentage of the bid price. In these cases, the bond may state a maximum dollar limitation (e.g., (e.g., 20% of the bid price but the amount not to exceed _____ dollars).
4. (a) Corporations executing the bond as sureties must appear on the Department of the Treasury's list of approved sureties and must act within the limitation listed therein. Where more than one corporate surety is involved, their names and addresses shall appear in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)." In the space designed "SURETY(IES)" on the face of the form, insert only the letter identification of the sureties.

(b) Where individual sureties are involved, a completed Affidavit of Individual surety (Standard Form 28), for each individual surety, shall accompany the bond. The Government may require the surety to furnish additional substantiating information concerning its financial capability.
5. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Corporate Seal"; and shall affix an adhesive seal if executed in Maine, New Hampshire, or any other jurisdiction requiring adhesive seals.
6. Type the name and title of each person signing this bond in the space provided.
7. In its application to negotiated contracts, the terms "bid" and "bidder" shall include "proposal" and "offeror."

CONTRACT CLAUSES INDEX

FEDERAL ACQUISITION REGULATION (FAR) & TRANSPORTATION ACQUISITION REGULATION (TAR)

(Updated thru FAC 2005-26 on 06/12/2008)

52.252-2 Clauses Incorporated By Reference (Feb 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this address: www.arnet.gov/far/

(End of Clause)

FAR & TAR CLAUSES INCORPORATED BY REFERENCE

CLAUSE	TITLE	DATE	REMARKS
52.202-01	DEFINITIONS	Jul-04	
52.203-03	GRATUITIES	Apr-84	
52.203-05	COVENANT AGAINST CONTINGENT FEES	Apr-84	
52.203-07	ANTI-KICKBACK PROCEDURES	Jul-95	
52.203-8	CANCEL. & RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY	Jan-97	
52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY	Jan-97	
52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS	Sep-05	
52.204-02, ALT II	SECURITY REQUIREMENTS (ALT II, APR-84)	AUG-96	
52.204-04	PRINTING/COPYING DOUBLE-SIDED ON RECYCLED PAPER	Aug-00	
52.204-07	CENTRAL CONTRACTOR REGISTRATION	Aug-08	Contractor Mandatory Internet Data Input
52.209-06	PROTECTING GOV. INTEREST WHEN SUBCONTRACTING W/ CONT. DEB. SUSP. OR PROP. FOR DEB.	SEP-06	
52.215-08	ORDER OF PRECEDENCE UNIFORM CONTRACT FORMAT	Oct-97	FOR CONTRACTS > \$500,000
52.219-08	UTILIZATION OF SMALL BUSINESS CONCERNS	May-04	
52.219-09 ALT 1	SMALL BUSINESS SUBCONTRACTING PLAN (ALT 1 - (Oct 01))	Apr-08	Large Business Mandatory Submittal Requirement
52.219-14	LIMITATIONS ON SUBCONTRACTING	Dec-96	
52.219-16	LIQUIDATED DAMAGES - SUBCONTRACTING PLAN	Jan-99	
52.222-03	CONVICT LABOR	Jun-03	
52.222-04	CONTRACT WORK HOURS AND SAFETY STANDARDS ACT--OVERTIME COMPENSATION	Jul-05	
52.222-06	DAVIS-BACON ACT	Jul-05	Contractor Mandatory Wage Rates Posting
52.222-07	WITHHOLDING OF FUNDS	Feb-88	
52.222-08	PAYROLLS AND BASIC RECORDS	Feb-88	Contractor Weekly Payroll Submittals
52.222-09	APPRENTICES AND TRAINEES	Jul-05	
52.222-10	COMPLIANCE WITH COPELAND ACT REQUIREMENTS	Feb-88	
52.222-11	SUBCONTRACTS (LABOR STANDARDS)	Jul-05	
52.222-12	CONTRACT TERMINATION--DEBARMENT	Feb-88	
52.222-13	COMPLIANCE WITH DAVIS-BACON AND RELATED ACT REGULATIONS	Feb-88	
52.222-14	DISPUTES CONCERNING LABOR STANDARDS	Feb-88	
52.222-15	CERTIFICATION OF ELIGIBILITY	Feb-88	
52.222-21	PROHIBITION OF SEGREGATED FACILITIES	Feb-99	
52.222-26	EQUAL OPPORTUNITY	Mar-07	
52.222-27	AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION	Feb-99	
52.222-35	EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, & OTHER ELIGIBLE VETERANS.	SEP-06	
52.222-36	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES	Jun-98	
52.222-37	EMPLOYMENT. REPORTS ON SPECIAL DISABLED VETS, VETS OF THE VIETNAM ERA, ETAL.	SEP-06	Contractor Annual Mandatory Reporting Requirement

CONTRACT CLAUSES INDEX

FEDERAL ACQUISITION REGULATION (FAR) & TRANSPORTATION ACQUISITION REGULATION (TAR)

(Updated thru FAC 2005-26 on 06/12/2008)

FAR & TAR CLAUSES INCORPORATED BY REFERENCE

CLAUSE	TITLE	DATE	REMARKS
52.222-39	NOTIFICATION OF EMPLOYEE RIGHTS CONCERNING PAYMENT OF UNION DUES OR FEES	Dec-04	Contractor Mandatory Postings
52.223-06	DRUG-FREE WORKPLACE	May-01	
52.223-14	TOXIC CHEMICAL RELEASE REPORTING	Aug-03	Contractor Annual Contractor Reporting Requirement
52.225-13	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	Jun-08	
52.227-01	AUTHORIZATION AND CONSENT	Dec-07	
52.227-02	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT	Dec-07	
52.227-04	PATENT INDEMNITY-CONSTRUCTION CONTRACTS	Dec-07	
52.228-02	ADDITIONAL BOND SECURITY	Oct-97	
52.228-5	INSURANCE - WORK ON A GOVERNMENT INSTALLATION	Jan-97	Contractor Submittal Requirement
52.228-11	PLEDGES OF ASSETS	Feb-92	
52.228-12	PROSPECTIVE SUBCONTRACTOR REQUESTS FOR BONDS	Oct-95	
52.228-14	IRREVOCABLE LETTER OF CREDIT	Dec-99	
52.228-15	PERFORMANCE AND PAYMENT BONDS - CONSTRUCTION	NOV-06	Contractor Submittal Requirement
52.229-03	FEDERAL, STATE, AND LOCAL TAXES	Apr-03	
52.232-05	PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS	Sep-02	Contractor Submittal Requirement
52.232-17	INTEREST	Jun-96	
52.232-23	ASSIGNMENT OF CLAIMS	Jan-86	
52.232-27	PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS	Sep-05	
52.232.33	PAYMENT BY ELECTRONIC FUNDS TRANSFER - CENTRAL CONTRACTOR REGISTRATION	Oct-03	
52.233-01 ALT I	DISPUTES (Alt-I, Dec-91)	Jul-02	
52.233-03	PROTEST AFTER AWARD	Aug-96	
52.233-04	APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM	Oct-04	
52.236-02	DIFFERING SITE CONDITIONS	Apr-84	
52.236-03	SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK	Apr-84	
52.236-05	MATERIAL AND WORKMANSHIP	Apr-84	
52.236-06	SUPERINTENDENCE BY THE CONTRACTOR	Apr-84	
52.236-07	PERMITS AND RESPONSIBILITIES	Nov-91	
52.236-08	OTHER CONTRACTS	Apr-84	
52.236-09	PROTECTION OF EXIST. VEGETATION., STRUCTURES., EQUIPMENT., UTILITIES, & IMPROVEMENTS	Apr-84	
52.236-10	OPERATIONS AND STORAGE AREAS	Apr-84	
52.236-11	USE AND POSSESSION PRIOR TO COMPLETION	Apr-84	
52.236-12	CLEANING UP	Apr-84	
52.236-13	ACCIDENT PREVENTION	Nov-91	

CONTRACT CLAUSES INDEX

FEDERAL ACQUISITION REGULATION (FAR) & TRANSPORTATION ACQUISITION REGULATION (TAR)

(Updated thru FAC 2005-26 on 06/12/2008)

FAR & TAR CLAUSES INCORPORATED BY REFERENCE

CLAUSE	TITLE	DATE	REMARKS
52.236-15	SCHEDULES FOR CONSTRUCTION CONTRACTS	Apr-84	Contractor Submittal Requirement
52.236-17	LAYOUT OF WORK	Apr-84	
52.236-21	SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION	Feb-97	
52.236-26	PRECONSTRUCTION CONFERENCE	Feb-95	
52.242-13	BANKRUPTCY	Jul-95	
52.242-14	SUSPENSION OF WORK	Apr-84	
52.243-04	CHANGES	Aug-87	
52.244-06	SUBCONTRACTS FOR COMMERCIAL ITEMS	SEP-06	
52.245-02	GOVERNMENT PROPERTY (FIXED-PRICE CONTRACTS)	Jun-07	
52.246-12	INSPECTION OF CONSTRUCTION	Aug-96	
52.247-64	PERFORMANCE FOR PRIVATELY OWNED U.S.-FLAG COMMERCIAL VESSELS	FEB-06	
52.248-03 ALT 1	VALUE ENGINEERING-CONSTRUCTION (Alt-I, Apr-84)	SEP-06	
52.249-01	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED PRICE) (SHORT FORM)	APR-84	
52.249-02 ALT I	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED PRICE) (Alt-I, Sep-96)	May-04	
52.249-10	DEFAULT (FIXED PRICE CONSTRUCTION)	Apr-84	
52.253-01	COMPUTER GENERATED FORMS	Jan-91	

TAR CLAUSES INCORPORATED BY REFERENCE

CLAUSE	TITLE	DATE	REMARKS
1252.211-71	INDEX FOR SPECIFICATIONS	Apr-05	
1252.242-73	CONTRACTING OFFICERS TECHNICAL REPRESENTATIVE	Oct-94	

CONTRACT CLAUSES INDEX
FEDERAL ACQUISITION REGULATION (FAR) & TRANSPORTATION ACQUISITION REGULATION (TAR)
(Updated thru FAC 2005-26 on 06/12/2008)

FAR & TAR PROVISIONS INCORPORATED BY REFERENCE

PROVISION	TITLE	DATE	REMARKS
52.217-03	EVALUATION EXCLUSIVE OF OPTION	Apr-84	
52.217-04	EVALUATION OF OPTIONS EXERCISED AT TIME OF CONTRACT AWARD	Jun-88	
52.217-05	EVALUATION OF OPTIONS	Mar-89	

FAR & TAR CLAUSES INCORPORATED BY FULL TEXT

CLAUSE	TITLE	DATE	SECTION	SECTION TYPE	REMARKS
52.211-10	COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK	Apr-84	H	CONSTR. CONTRACT REQS.	Government Fill In
52.211-12	LIQUIDATED DAMAGES-CONSTRUCTION	Sep-00	H	CONSTR. CONTRACT REQS.	Government Fill In
52.211-18	VARIATION IN ESTIMATED QUANTITY	Apr-84	H	CONSTR. CONTRACT REQS	
52.219-4	NOTICE OF PRICE EVALUATION. PREFERENCE FOR HUBZONE SB CONCERNS	Jul-05	F	SOCIOECON PROG REQS	Contractor Fill-In
52.222-23	NOTICE OF REQ. FOR AFFIRMATIVE ACTION TO ENSURE E.E.O.	Feb-99	F	SOCIOECON PROG REQS	Contractor Reporting Requirements
52.223-03 ALT I	HAZARDOUS MAT. IDENT. & MATERIAL SAFETY DATA (Alt-I, Jul-95)	Jan-97	G	GEN'L CONTRACT REQS.	Contractor Submittal Requirements
52.223-09	EST. OF % OF REC. MAT. CONTENT FOR EPA DESIGN. PRODUCTS	May-08	G	GEN'L CONTRACT REQS	Contractor Reporting Requirement
52.225-09	BUY AMERICAN ACT-CONSTRUCTION MATERIALS	Jan-05	F	SOCIOECON PROG REQS	Government & Contractor Fill In's
52-236-01	PERFORMANCE OF WORK BY THE CONTRACTOR	Apr -84	H	CONSTR. CONTRACT REQS	Government Fill In
52.236-04	PHYSICAL DATA	Apr-84	H	CONSTR. CONTRACT REQS.	Government Fill In

TAR CLAUSES INCORPORATED BY FULL TEXT

CLAUSE	TITLE	DATE	SECTION	SECTION TYPE	REMARKS
FAR PT 22.9	GOV. NONDISCRIMINATION BECAUSE OF AGE POLICY	Feb-64	F	SOCIOECON PROG REQS	Policy Statement - Not A Clause

(End of Clauses Index)

CONTRACT PROVISIONS INDEX
FEDERAL ACQUISITION REGULATION (FAR) & TRANSPORTATION ACQUISITION REGULATION (TAR)
(Updated thru FAC 2005-26 on 06/12/2008)

52.252-1 Solicitation Provisions Incorporated by Reference
(Feb 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this address: www.arnet.gov/far/

(End of Clause)

FAR & TAR PROVISIONS INCORPORATED BY REFERENCE

PROVISION	TITLE	DATE	REMARKS
52.211-06	BRAND NAME OR EQUAL	AUG-99	USE IF BRAND NAME OR EQUAL INCLUDED
52.215-01	INSTRUCTION TO OFFEROES – COMPETATIVE ACQUISITION	JAN-04	
52.215-01 ALT 1	INSTRUCTION TO OFFEROES – COMPETATIVE ACQUISITION	OCT-97	
52.215-11	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA-MODIFICATIONS	OCT-97	
52.215-13	SUBCONTRACTOR COST OR PRICING DATA-MODIFICATIONS	OCT-97	
52.222-23	NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE E.E.O.	FEB-99	
52.222-38	COMPLIANCE WITH VETERANS' EMPLOYMENT REPORTING REQMTS.	DEC-01	
52.228-01	BID GUARANTEE	SEP-96	

TAR PROVISIONS INCORPORATED BY REFERENCE

PROVISION	TITLE	DATE	REMARKS
1252.211-70	BRAND NAME OR EQUAL	OCT-96	USE IF BRAND NAME OR EQUAL INCLUDED

CONTRACT PROVISIONS INDEX
FEDERAL ACQUISITION REGULATION (FAR) & TRANSPORTATION ACQUISITION REGULATION (TAR)
(Updated thru FAC 2005-26 on 06/12/2008)

FAR PROVISIONS INCORPORATED BY FULL TEXT

PROVISION	TITLE	DATE	SECTION	SECTION TYPE	REMARKS
52.204-08	ANNUAL REPRESENTATIONS AND CERTIFICATIONS	JAN 06	D	REPS. & CERTIFICATIONS	Mandatory Contractor On-Line Input
52.211-04	AVAILABILITY FOR EXAM. OF SPECS NOT LISTED IN GSA INDEX OF FED SPECS/STANDARDS & COM. ITEM DESCRIPTION	JUN-88	E	INSTRUCTIONS TO BIDDERS	Government Fill In.
52.216-01	TYPE OF CONTRACT	APR-84	E	INSTRUCTIONS TO BIDDERS	Government Fill In.
52.225-09	BUY AMERICAN ACT-BAL. OF PAYMTS. – CONST MATERIALS	AUG-00	F	SOCIOECON PROG REQS	FOR CONTRACTS < \$6,806,000
52.225-10	NOT. OF BUY AM. ACT/BAL. OF PAY.-CONST. MATLS	MAY-02	F	SOCIOECON PROG REQS	FOR CONTRACTS > \$6,806,000
52.225-12 ALT 1	NOT. OF BUY AM. ACT/BAL. OF PAY.-CONST. MATLS-TRADE (ALT 1, NOV-06)	JAN-05			\$6,806,000 ,CONTR,\$7,068,419
52.233-02	SERVICE OF PROTEST	SEP-96	E	INSTRUCTIONS TO BIDDERS	Contractor Submittal Requirement
52.236-27	SITE VISIT (CONSTRUCTION)	FEB-95	H	CONSTR. CONTRAC REQS.	
52.252-05	AUTHORIZED DEVIATIONS IN PROVISIONS	APR-84	G	GEN'L CONTRACT REQS.	

OTHER PROVISIONS INCORPORATED BY FULL TEXT

PROVISION	TITLE	DATE	SECTION	SECTION TYPE	REMARKS
FAR PT 22.9	NONDISCRIMINATION BECAUSE OF AGE	FEB-64	F	SOCIOECON PROG REQS	
-----	SELECTION OF LABOR	--	F	SOCIOECON PROG REQS	FOR VI CONTRACTS ONLY
-----	RECORD OF MATERIAL, SUPPLIES, AND LABOR	--	H	CONSTR. CONTRAC REQS.	FOR VI CONTRACTS ONLY

(End of Provisions Index)

FEDERAL ACQUISITION REGULATION AND TRANSPORTATION ACQUISITION PROVISIONS

REPRESENTATIONS AND CERTIFICATIONS

Annual Representations and Certifications. Prospective contractors shall complete electronic annual representations and certifications on-line at this web address: <http://orca.bpn.gov> (See FAR 4.1201) in conjunction with required registration in the Central Contractor Registration (CCR) database (see FAR 4.1102).

Vets100 Form must also be filled-in online at <http://vets100.cudenver.edu/> in accordance with FAR Clause 52.222-37.

Contractors are not eligible for award without completing these requirements.

4.1201); except for the changes identified below [*offeror to insert changes, identifying change by clause number, title, date*]. These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and complete as of the date of this offer.

FAR Clause	Title	Date	Change

Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on ORCA.
(End of Provision)

52.204-8

52.204-8 – Annual Representations and Certifications.

As prescribed in 4.1202, insert the following provision:
Annual Representations and Certifications (Jan 2006)

- (a)
 - (1) The North American Industry classification System (NAICS) code for this acquisition is 237310.
 - (2) The small business size standard is **\$31,000,000**.
 - (3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.
- (b)
 - (1) If the clause at 52.204-7, Central Contractor Registration, is included in this solicitation, paragraph (c) of this provision applies.
 - (2) If the clause at 52.204-7 is not included in this solicitation, and the offeror is currently registered in CCR, and has completed the ORCA electronically, the offeror may choose to use paragraph (c) of this provision instead of completing the corresponding individual representations and certification in the solicitation. The offeror shall indicate which option applies by checking one of the following boxes:
 - (i) Paragraph (c) applies.
 - (ii) Paragraph (c) does not apply and the offeror has completed the individual representations and certifications in the solicitation.
- (c) The offeror has completed the annual representations and certifications electronically via the Online Representations and Certifications Application (ORCA) website at <http://orca.bpn.gov> . After reviewing the ORCA database information, the offeror verifies by submission of the offer that the representations and certifications currently posted electronically have been entered or updated within the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference (see FAR

(End of Section D)

FEDERAL ACQUISITION REGULATION & TRANSPORTATION ACQUISITION REGULATION PROVISIONS

INSTRUCTIONS TO BIDDERS

52.211-4

AVAILABILITY FOR EXAMINATION OF SPECIFICATIONS NOT LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS (JUN 1988)

The specifications cited in this solicitation are not available for distribution. However, they may be examined at the following location(s):

**FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION
21400 RIDGETOP CIRCLE
STERLING, VIRGINIA 20166-6511**

Send an email to the following address to make an appointment: eflhd.contracts@fhwa.dot.gov

TIME(S) FOR VIEWING: 8 A.M. TO 4 P.M.

All documents are available for direct download from the following website:

www.efl.fhwa.dot.gov/procurement/procurement.htm

(End of Provision)

52.216-1

TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a **firm-fixed-price** contract resulting from this solicitation.

(End of Provision)

52.233-2

SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from

**FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION
21400 RIDGETOP CIRCLE
STERLING, VIRGINIA 20166-6511**

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of Provision)

52.236-27

Site Visit (Construction). (Feb 1995)

(a) The clauses at 52.236-2, Differing Site Conditions, and 52.236-3, Site Investigations and Conditions Affecting the Work, will be included in any contract awarded as a result of this solicitation. Accordingly, offerors or quoters are urged and expected to inspect the site where the work will be performed.

(b) Site visits may be arranged during normal duty hours by contacting:

(End of Provision)

Alternate 1 (Feb 1995). If an organized site visit will be conducted, substitute a paragraph substantially the same as the following for paragraph (b) of the basic provision:

(b) An organized site visit has been scheduled for --
July 29, 2008 at 10:00 a.m. for pre-bid meeting and July 30, 2008 at 10:00 a.m. for site visit.

(c) Participants will meet at --

21400 Ridgetop Circle, Room 100

Sterling, VA 20166

For security reasons, individuals requiring access to the EFLHD must present a valid photo ID and be escorted to their destination by a Government employee. Due to new security provisions, all visitors attending pre- bid meeting are urged to arrive at least 1/2 half hour prior to the meeting. All visitors must register with the receptionist in Room 100. A Government employee will escort visitors to a conference room. Unescorted visitors will be denied entry and no exceptions will be made.

(End of Provision)

(End of Section E)

FEDERAL ACQUISITION REGULATION AND TRANSPORTATION ACQUISITION REGULATION CLAUSES

SOCIOECONOMIC PROGRAM REQUIREMENTS

52.219-4

Notice of Price Evaluation Preference for HUBZone Small Business Concerns.

(Oct 2004)

(a) *Definition.* HUBZone small business concern, as used in this clause, means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

(b) *Evaluation preference.*

(1) Offers will be evaluated by adding a factor of 10 percent to the price of all offers, except—

(i) Offers from HUBZone small business concerns that have not waived the evaluation preference;

(ii) Otherwise successful offers from small business concerns;

(iii) Otherwise successful offers of eligible products under the Trade Agreements Act when the dollar threshold for application of the Act is exceeded (see 25.402 of the Federal Acquisition Regulation (FAR)); and

(iv) Otherwise successful offers where application of the factor would be inconsistent with a Memorandum of Understanding or other international agreement with a foreign government.

(2) The factor of 10 percent shall be applied on a line item basis or to any group of items on which award may be made. Other evaluation factors described in the solicitation shall be applied before application of the factor.

(3) A concern that is both a HUBZone small business concern and a small disadvantaged business concern will receive the benefit of both the HUBZone small business price evaluation preference and the small disadvantaged business price evaluation adjustment (see FAR clause 52.219-23). Each applicable price evaluation preference or adjustment shall be calculated independently against an offeror's base offer. These individual preference amounts shall be added together to arrive at the total evaluated price for that offer.

(c) *Waiver of evaluation preference.* A HUBZone small business concern may elect to waive the evaluation preference, in which case the factor will be added to its offer for evaluation purposes. The agreements in paragraph (d) of this clause do not apply if the offeror has waived the evaluation preference.

Offer elects to waive the evaluation preference.

(d) *Agreement.* A HUBZone small business concern agrees that in the performance of the contract, in the case of a contract for

(1) Services (except construction), at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern or employees of other HUBZone small business concerns;

(2) Supplies (other than procurement from a non-manufacturer of such supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern or other HUBZone small business concerns;

(3) General construction, at least 15 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns; or

(4) Construction by special trade contractors, at least 25 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns.

(e) A HUBZone joint venture agrees that in the performance of the contract, the applicable percentage specified in paragraph (d) of this clause will be performed by the HUBZone small business participant or participants;

(f) A HUBZone small business concern non-manufacturer agrees to furnish in performing this contract only end items manufactured or produced by HUBZone small business manufacturer concerns. This paragraph does not apply in connection with construction or service contracts.

(End of clause)

FAR SUBPART 22.9

NONDISCRIMINATION BECAUSE OF AGE (FEB 96)

22.901 Policy. Executive Order 11141, February 12, 1964 (29 CFR 2477), states that the Government policy is as follows:

(a) Contractors and subcontractors shall not, in connection with employment, advancement, or discharge of employees, or the terms, conditions, or privileges of their employment, discriminate against persons because of their age except upon the basis of a bona fide occupational qualification, retirement plan, or statutory requirement.

(b) Contractors and subcontractors, or persons acting on their behalf, shall not specify in solicitations or advertisements for employees to work on Government contracts, a maximum age limit for employment unless the specified maximum age limit is based upon a bona fide occupational qualification, retirement plan, or statutory requirement.

FEDERAL ACQUISITION REGULATION AND TRANSPORTATION ACQUISITION REGULATION CLAUSES

SOCIOECONOMIC PROGRAM REQUIREMENTS

(c) Agencies will bring this policy to the attention of contractors. The use of contract clauses is not required.
(End of Policy Statement)

52.222-23

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity for Construction (Feb 1999)

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for Minority Participation for Each Trade	Goals for Female Participation for Each Trade
28.0%	6.9%

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the *Federal Register* in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on

(1) its implementation of the Equal Opportunity clause,

(2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and

(3) its efforts to meet the goals.

The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. 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, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the

Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the --

(1) Name, address, and telephone number of the subcontractor;

(2) Employer's identification number of the subcontractor;

(3) Estimated dollar amount of the subcontract;

(4) Estimated starting and completion dates of the subcontract; and

(5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is as follows:

Fairfax County, Virginia

(End of Provision)

52.225-9

Buy American Act-Construction Materials. (Jan 2005)

(a) *Definitions.* As used in this clause-

"Component" means an article, material, or supply incorporated directly into a construction material.

"Construction material" means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site pre-assembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

"Cost of components" means-

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

FEDERAL ACQUISITION REGULATION AND TRANSPORTATION ACQUISITION REGULATION CLAUSES

SOCIOECONOMIC PROGRAM REQUIREMENTS

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.

“Domestic construction material” means-

(1) An un-manufactured construction material mined or produced in the United States; or

(2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which non-availability determinations have been made are treated as domestic.

“Foreign construction material” means a construction material other than a domestic construction material.

“United States” means the 50 States, the District of Columbia, and outlying areas.

(b) Domestic preference.

(1) This clause implements the Buy American Act (41 U.S.C. 10a - 10d) by providing a preference for domestic construction material. The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to the construction material or components listed by the Government as follows:

NONE

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) of this clause if the Government determines that-

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the requirements of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American Act.

(1)

(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(3) of this clause shall include adequate information for Government evaluation of the request, including-

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(3)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act.

(d) *Data*. To permit evaluation of requests under paragraph 2 of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

FEDERAL ACQUISITION REGULATION AND TRANSPORTATION ACQUISITION REGULATION CLAUSES

SOCIOECONOMIC PROGRAM REQUIREMENTS

Foreign and Domestic Construction Materials Price Comparison			
Construction Material Description	Unit of Measure	Quantity	Price (Dollars)*
Item 1:			
Foreign construction material			
Domestic construction material			
Item 2:			
Foreign construction material			
Domestic construction material			
[List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.] [Include other applicable supporting information.] [* Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).]			

(End of Clause)

52.225-10 -- Notice of Buy American Act Requirement— Construction Materials.

As prescribed in [25.1102](#)(b)(1), insert the following provision:

Notice of Buy American Act Requirement--Construction Materials (May 2002)

(a) *Definitions.* “Construction material,” “domestic construction material,” and “foreign construction material,” as used in this provision, are defined in the clause of this solicitation entitled “Buy American Act--Construction Materials” (Federal Acquisition Regulation (FAR) clause 52.225-9).

(b) *Requests for determinations of inapplicability.* An offeror requesting a determination regarding the inapplicability of the Buy American Act should submit the request to the Contracting Officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of the clause at FAR 52.225-9 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American Act before submitting its offer, or has not received a response to a previous request, the offeror shall include the information and supporting data in the offer.

(c) *Evaluation of offers.*

(1) The Government will evaluate an offer requesting exception to the requirements of the Buy American Act, based on claimed unreasonable cost of domestic construction material, by adding to the offered price the appropriate percentage of the cost of such foreign

construction material, as specified in paragraph (b)(3)(i) of the clause at FAR 52.225-9.

(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

(d) *Alternate offers.*

(1) When an offer includes foreign construction material not listed by the Government in this solicitation in paragraph (b)(2) of the clause at FAR 52.225-9, the offeror also may submit an alternate offer based on use of equivalent domestic construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of the clause at FAR 52.225-9 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of the clause at FAR 52.225-9 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic construction material, and the offeror shall be required to furnish such domestic construction material. An offer based on use of the foreign construction material for which an exception was requested—

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

(End of provision)

Alternate I (May 2002). As prescribed in [25.1102](#)(b)(2), substitute the following paragraph (b) for paragraph (b) of the basic provision:

(b) *Requests for determinations of inapplicability.* An offeror requesting a determination regarding the inapplicability of the Buy American Act shall submit the request with its offer, including the information and applicable supporting data required by paragraphs (c) and (d) of the clause at FAR 52.225-9.

52.225-11

Buy American Act—Construction Materials under Trade Agreements. (Nov 2006)

(a) *Definitions.* As used in this clause--

FEDERAL ACQUISITION REGULATION AND TRANSPORTATION ACQUISITION REGULATION CLAUSES

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“Caribbean Basin country construction material” means a construction material that--

(1) Is wholly the growth, product, or manufacture of a Caribbean Basin country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a Caribbean Basin country into a new and different construction material distinct from the materials from which it was transformed.

“Component” means an article, material, or supply incorporated directly into a construction material.

“Construction material” means an article, material, or supply brought to the construction site by the Contractor or subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

“Cost of components” means--

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.

“Designated country” means any of the following countries:

(1) A World Trade Organization Government Procurement Agreement country (Aruba, Austria, Belgium, Canada, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea (Republic of), Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, or United Kingdom);

(2) A Free Trade Agreement country (Australia, Bahrain, Canada, Chile, El Salvador, Guatemala, Honduras, Mexico, Morocco, Nicaragua, or Singapore);

(3) A least developed country (Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Djibouti, East Timor, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Laos, Lesotho, Madagascar, Malawi, Maldives, Mali, Mauritania, Mozambique, Nepal, Niger, Rwanda, Samoa, Sao Tome and Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, Tanzania, Togo, Tuvalu, Uganda, Vanuatu, Yemen, or Zambia); or

(4) A Caribbean Basin country (Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, British Virgin Islands, Costa Rica, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Montserrat, Netherlands Antilles, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, or Trinidad and Tobago).

“Designated country construction material” means a construction material that is a WTO GPA country construction material, an FTA country construction material, a least developed country construction material, or a Caribbean Basin country construction material.

“Domestic construction material” means--

(1) An unmanufactured construction material mined or produced in the United States; or

(2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic.

“Free Trade Agreement country construction material means” a construction material that--

(1) Is wholly the growth, product, or manufacture of a Free Trade Agreement (FTA) country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a FTA country into a new and different construction material distinct from the materials from which it was transformed.

“Foreign construction material” means a construction material other than a domestic construction material.

“Least developed country construction material” means a construction material that--

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(1) Is wholly the growth, product, or manufacture of a least developed country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a least developed country into a new and different construction material distinct from the materials from which it was transformed.

“United States” means the 50 States, the District of Columbia, and outlying areas.

“WTO GPA country construction material” means a construction material that--

(1) Is wholly the growth, product, or manufacture of a WTO GPA country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a WTO GPA country into a new and different construction material distinct from the materials from which it was transformed.

(b) *Construction materials.*

(1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) by providing a preference for domestic construction material. In addition, the Contracting Officer has determined that the WTO GPA and Free Trade Agreements (FTAs) apply to this acquisition. Therefore, the Buy American Act restrictions are waived for designated country construction materials.

(2) The Contractor shall use only domestic or designated country construction material in performing this contract, except as provided in paragraphs (b)(3) and (b)(4) of this clause.

(3) The requirement in paragraph (b)(2) of this clause does not apply to the construction materials or components listed by the Government as follows: **NONE**.

(4) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(3) of this clause if the Government determines that--

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the restrictions of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient

and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American Act.

(1)

(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(4) of this clause shall include adequate information for Government evaluation of the request, including--

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier;

and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(4)(i) of this clause.

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(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act.

(d) *Data.* To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Construction Materials Price Comparison

Construction material description	Unit of measure	Quantity	Price (dollars) *
<i>Item 1</i>			
Foreign construction material			
Domestic construction material			
<i>Item 2</i>			
Foreign construction material			
Domestic construction material			

[List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.]

[Include other applicable supporting information.]

[* Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).]

(End of clause)

Alternate I (Nov 2006). As prescribed in [25.1102\(c\)\(3\)](#), add the following definitions of “Bahrainian construction material” and “Mexican construction material” to paragraph (a) of the basic clause, and substitute the following paragraphs (b)(1) and (b)(2) for paragraphs (b)(1) and (b)(2) of the basic clause:

“Bahrainian construction material” means a construction material that—

(1) Is wholly the growth, product, or manufacture of Bahrain; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in Bahrain into a new and different construction material distinct from the materials from which it was transformed.

“Mexican construction material” means a construction material that—

(1) Is wholly the growth, product, or manufacture of Mexico; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in Mexico into a new and different construction material distinct from the materials from which it was transformed.

(b) *Construction materials.*

(1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) by providing a preference for domestic construction material. In addition, the Contracting Officer has determined that the WTO GPA and all the Free Trade Agreements except NAFTA apply to this acquisition. Therefore, the Buy American Act restrictions are waived for designated country construction materials other than Bahrainian or Mexican construction materials.

(2) The Contractor shall use only domestic, or designated country construction material other than Bahrainian or Mexican construction material in performing this contract, except as provided in paragraphs (b)(3) and (b)(4) of this clause.

**52.225-12
Notice of Buy American Act Requirement—
Construction Materials Under Trade
Agreements.
(Jan 2005)**

(a) *Definitions.* “Construction material,” “designated country construction material,” “domestic construction material,” and “foreign construction material,” as used in this provision, are defined in the clause of this solicitation entitled “Buy American Act--Construction Materials Under Trade Agreements” (Federal Acquisition Regulation (FAR) clause 52.225-11).

(b) *Requests for determination of inapplicability.* An offeror requesting a determination regarding the inapplicability of the Buy American Act should submit the request to the Contracting Officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of FAR clause 52.225-11 in the

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request. If an offeror has not requested a determination regarding the inapplicability of the Buy American Act before submitting its offer, or has not received a response to a previous request, the offeror shall include the information and supporting data in the offer.

(c) Evaluation of offers.

(1) The Government will evaluate an offer requesting exception to the requirements of the Buy American Act, based on claimed unreasonable cost of domestic construction materials, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(4)(i) of FAR clause 52.225-11.

(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

(d) Alternate offers.

(1) When an offer includes foreign construction material, other than designated country construction material, that is not listed by the Government in this solicitation in paragraph (b)(3) of FAR clause 52.225-11, the offeror also may submit an alternate offer based on use of equivalent domestic or designated country construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of FAR clause 52.225-11 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of FAR clause 52.225-11 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic or designated country construction material, and the offeror shall be required to furnish such domestic or designated country construction material. An offer based on use of the foreign construction material for which an exception was requested--

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

(End of provision)

Alternate II (Nov 2006). As prescribed in [25.1102\(d\)\(3\)](#), add the definitions of "Bahrainian construction material" and

"Mexican construction material" to paragraph (a) and substitute the following paragraph (d) for paragraph (d) of the basic provision:

(d) Alternate offers.

(1) When an offer includes foreign construction material, except foreign construction material from a designated country other than Bahrain or Mexico, that is not listed by the Government in this solicitation in paragraph (b)(3) of FAR clause 52.225-11, the offeror also may submit an alternate offer based on use of equivalent domestic or designated country construction material other than Bahrainian or Mexican construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of FAR clause 52.225-11 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of FAR clause 52.225-11 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic or designated country construction material other than Bahrainian or Mexican construction material. An offer based on use of the foreign construction material for which an exception was requested--

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

(End of Section F)

MINIMUM WAGE SCHEDULE

U.S. Department of Labor
 Employment Standards Administration
 Wage and Hour Division

GENERAL DECISION: VA20080020 06/13/2008 VA20

Date: June 13, 2008
 General Decision Number: **VA20080020** 06/13/2008

Superseded General Decision Number: VA20070020

State: Virginia

Construction Type: Highway

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

*INDEPENDENT CITIES

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

Modification Number	Publication Date
0	02/08/2008
1	05/16/2008
2	06/13/2008

* ELEC0026-001 06/02/2008

	Rates	Fringes
Electricians.....	\$ 35.55	11.42+a

a. PAID HOLIDAYS: New Year's Day, Martin Luther King Jr.'s Birthday, Inauguration Day, Memorial Day, Fourth of July, Labor Day, Veterans Day, Thanksgiving Day, the day after Thanksgiving and Christmas Day or days designated as legal holidays by the Federal Government.

 IRON0201-003 05/01/2008

	Rates	Fringes
Ironworker (Reinforcing).....	\$ 26.15	12.08

 SUVA1999-001 01/29/1999

	Rates	Fringes
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Asbestos Worker/Heat and Frost Insulator.....	\$ 9.83
BLASTER.....	\$ 11.33
Carpenters (Structure).....	\$ 11.56
Concrete Finisher.....	\$ 12.84
Deckhand.....	\$ 9.50
FENCE ERECTOR.....	\$ 6.95
Flagger.....	\$ 9.25
Form Setter.....	\$ 10.92
Guardrail erector.....	\$ 9.75
Laborers:	
Asphalt Rakers.....	\$ 10.50
Construction Workers I (Skilled Laborers).....	\$ 9.72
Construction Workers II (Laborers).....	\$ 8.40
Landscape Workers.....	\$ 8.39
Pipelayers.....	\$ 9.17
Power Tool Operators.....	\$ 10.06
MASON (Structure).....	\$ 8.65
Painter, Bridge.....	\$ 11.47
Painters: (All Other Work).....	\$ 18.00
Plumbers.....	\$ 14.31
Power equipment operators:	
Air Compressor Operators.....	\$ 9.50
Asphalt Distributor Operators.....	\$ 10.76
Asphalt Paver Operators.....	\$ 11.97
Backhoe Operators.....	\$ 11.72
Bulldozer Operators, Utility.....	\$ 12.71
Bulldozer Operators.....	\$ 11.93
Concrete Finish Machine Operators, Utility.....	\$ 11.15
Concrete Finish Machine/Screed Operators (Bridge)...	\$ 13.00
Concrete Paving Machine Operators.....	\$ 11.00
Concrete Pump Operators.....	\$ 8.33
Concrete Saw Operators.....	\$ 8.00
Crane, Derrick, Dragline	

Operators.....	\$ 14.76
Crusher Tender Operators....	\$ 10.35
Drill Operators.....	\$ 9.69
Excavator Operators.....	\$ 12.00
Front-End Loader Operators	
2 yds. & under.....	\$ 11.40
Over 2 yds.....	\$ 11.91
Fuel and Lubricant Service	
Truck Drivers.....	\$ 11.88
Gradall Operators.....	\$ 14.00
Grade Checkers.....	\$ 7.47
Hydro-Seeder Operators.....	\$ 10.78
Log Skidder Operators.....	\$ 15.00
Mechanics.....	\$ 13.75
Mobile Mixer Operator.....	\$ 10.71
Motor Grader Operators	
Fine Grade.....	\$ 12.90
Rough Grade.....	\$ 12.55
Oiler Greaser.....	\$ 10.00
Pavement Marker Operators...\$	9.00
Pavement Marking Truck	
Operators.....	\$ 8.50
Pavement Planing	
Groundman.....	\$ 10.00
Operators.....	\$ 10.00
Pipe Boring/Jacking	
Machine Operators.....	\$ 9.75
Plant Operators.....	\$ 10.00
Roller Operators	
Finish.....	\$ 10.86
Rough.....	\$ 9.59
Scrapers Pan Operators.....	\$ 10.41
Shot Blast Machine	
Operators.....	\$ 8.13
Shovel Operators.....	\$ 10.09
Slip-Form Paver Operators...\$	9.00
Slurry Seal Paver	
Machine Operators.....	\$ 9.67
Truck Drivers.....	\$ 8.63
Stabilizer Operators.....	\$ 8.32
Stone Spreader Operators....\$	10.13
Subgrade Machine Operators..\$	8.80
Tractor Operators	
Crawlers.....	\$ 8.02
Utility.....	\$ 9.96
Transit Mix Truck Drivers...\$	9.75
Trenching Machine Operators.\$	10.00
Vacuum Machine Operators....\$	10.20
Sheet Metal Worker.....	\$ 11.50
SIGN ERECTOR.....	\$ 15.00
Structural workers.....	\$ 17.08

Truck drivers:

Heavy Duty	
Over 7 c.y.....	\$ 9.46
Under 7 c.y.....	\$ 8.38
Multi-Rear Axle.....	\$ 10.17
Single Rear Axle.....	\$ 9.08
Tandem Rear Axle.....	\$ 9.25

WATERPROOFER.....\$ 7.28

Welder.....\$ 12.10

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

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.

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

Write to:

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

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

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

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

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

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END OF GENERAL DECISION

FEDERAL ACQUISITION REGULATION AND TRANSPORTATION ACQUISITION REGULATION CLAUSES

GENERAL CONTRACT REQUIREMENTS

52.223-3

Hazardous Material Identification and Material Safety Data. (Jan 1997) Alt I (Jul 1995)

(a) "Hazardous material," as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material (If none, insert "None")	Identification No.
None	

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered non-responsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations

(including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to-

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with paragraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(i) Except as provided in paragraph (i)(2), the Contractor shall prepare and submit a sufficient number of Material Safety Data Sheets (MSDS's), meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous materials identified in paragraph (b) of this clause.

(1) For items shipped to consignees, the Contractor shall include a copy of the MSDS's with the packing list or other suitable shipping document, which accompanies each shipment. Alternatively, the Contractor is permitted to transmit MSDS's to consignees in advance of receipt of shipments by consignees, if authorized in writing by the Contracting Officer.

(2) For items shipped to consignees identified by mailing address as agency depots, distribution centers or customer supply centers, the Contractor shall provide one copy of the MSDS's in or on each shipping container. If affixed to the outside of each container, the MSDS's must be placed in a weather resistant envelope.

(End of Clause)

52.223-9

**Estimate of Percentage of Recovered Material Content
for EPA-Designated Products.
(MAY 2008)**

(a) *Definitions.* As used in this clause—

“Post consumer material” means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Post consumer material is a part of the broader category of “recovered material.”

“Recovered material” means waste materials and by-products recovered or diverted from solid waste, but the term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

(b) The Contractor, on completion of this contract, shall—

(1) Estimate the percentage of the total recovered material content for EPA-designated item(s) delivered and/or used in contract performance, including, if applicable, the percentage of post consumer material content; and

(2) Submit this estimate to:

**Contracting Officer
Eastern Federal Lands Highway Division
21400 Ridgetop Circle
Sterling, VA 20166.**

(End of Clause)

52.228-15

**Performance and Payment Bonds -- Construction
(Nov 2006)**

(a) *Definitions.* As used in this clause --

“Original contract price” means the award price of the contract; or, for requirements contracts, the price payable for the estimated total quantity; or, for indefinite-quantity contracts, the price payable for the specified minimum quantity. Original contract price does not include the price of any options, except those options exercised at the time of contract award.

(b) *Amount of required bonds.* Unless the resulting contract price is \$100,000 or less, the successful offeror shall furnish performance and payment bonds to the Contracting Officer as follows:

(1) *Performance Bonds (Standard Form 25).* The penal amount of performance bonds at the time of contract award shall be 100 percent of the original contract price.

(2) *Payment Bonds (Standard Form 25-A).* The penal amount of payment bonds at the time of contract award shall be 100 percent of the original contract price.

(3) *Additional bond protection.*

(i) The Government may require additional performance and payment bond protection if the contract price is increased. The increase in protection generally will equal 100 percent of the increase in contract price.

(ii) The Government may secure the additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

(c) *Furnishing executed bonds.* The Contractor shall furnish all executed bonds, including any necessary reinsurance agreements, to the Contracting Officer, within the time period specified in the Bid Guarantee provision of the solicitation, or otherwise specified by the Contracting Officer, but in any event, before starting work.

(d) *Surety or other security for bonds.* The bonds shall be in the form of firm commitment, supported by corporate sureties whose names appear on the list contained in Treasury Department Circular 570, individual sureties, or by other acceptable security such as postal money order, certified check, cashier’s check, irrevocable letter of credit, or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Treasury Circular 570 is published in the *Federal Register* or may be obtained from the:

U.S. Department of Treasury
Financial Management Service
Surety Bond Branch
3700 East West Highway, Room 6F01
Hyattsville, MD 20782
Or via the internet at
<http://www.fms.treas.gov/c570/> .

(e) *Notice of subcontractor waiver of protection (40 U.S.C. 3133(c)).* Any waiver of the right to sue on the payment bond is void unless it is in writing, signed by the person whose right is waived, and executed after such person has first furnished labor or material for use in the performance of the contract.

(End of Clause)

52.248-3

**Value Engineering – Construction.
(Feb 2000)**

(a) *General.* The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP’s) voluntarily. The Contractor shall share in any instant contract savings realized from accepted VECP’s, in accordance with paragraph (f) below.

(b) *Definitions.* “Collateral costs,” as used in this clause, means agency costs of operation, maintenance, logistic support, or Government-furnished property.

“Collateral savings,” as used in this clause, means those measurable net reductions resulting from a VECP in the agency’s overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

“Contractor’s development and implementation costs,” as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

“Government costs,” as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistic support. The term does not include the normal administrative costs of processing the VECP.

“Instant contract savings,” as used in this clause, means the estimated reduction in Contractor cost of performance resulting from acceptance of the VECP, minus allowable Contractor’s development and implementation costs, including subcontractors’ development and implementation costs (see paragraph (h) below).

“Value engineering change proposal (VECP)” means a proposal that --

- (1) Requires a change to this, the instant contract, to implement; and
- (2) Results in reducing the contract price or estimated cost without impairing essential functions or characteristics; provided, that it does not involve a change-
 - (i) In deliverable end item quantities only; or
 - (ii) To the contract type only.

(c) *VECP preparation.* As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (c)(1) through (7) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

- (1) A description of the difference between the existing contract requirement and that proposed, the comparative advantages and disadvantages of each, a justification when an item’s function or characteristics are being altered, and the effect of the change on the end item’s performance.
- (2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.
- (3) A separate, detailed cost estimate for

- (i) the affected portions of the existing contract requirement and

- (ii) the VECP.

The cost reduction associated with the VECP shall take into account the Contractor’s allowable development and implementation costs, including any amount attributable to subcontracts under paragraph (h) below.

- (4) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

- (5) A prediction of any effects the proposed change would have on collateral costs to the agency.

- (6) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

- (7) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) *Submission.* The Contractor shall submit VECP’s to the Resident Engineer at the worksite, with a copy to the Contracting Officer.

(e) *Government action.*

- (1) The Contracting Officer will notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer will notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP’s expeditiously; however, it will not be liable for any delay in acting upon a VECP.

- (2) If the VECP is not accepted, the Contracting Officer will notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

- (3) Any VECP may be accepted, in whole or in part, by the Contracting Officer’s award of a modification to this contract citing this clause. The Contracting Officer may accept the VECP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or part of any VECP is a unilateral

decision made solely at the discretion of the Contracting Officer.

(f) *Sharing* --

(1) *Rates*. The Government's share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by --

- (i) 45 percent for fixed-price contracts; or
- (ii) 75 percent for cost-reimbursement contracts.

(2) *Payment*. Payment of any share due the Contractor for use of a VECP on this contract shall be authorized by a modification to this contract to --

- (i) Accept the VECP;
- (ii) Reduce the contract price or estimated cost by the amount of instant contract savings; and
- (iii) Provide the Contractor's share of savings by adding the amount calculated to the contract price or fee.

(g) *Collateral savings*. If a VECP is accepted, the Contracting Officer will increase the instant contract amount by 20 percent of any projected collateral savings determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings will not exceed the contract's firm-fixed-price or estimated cost, at the time the VECP is accepted, or \$100,000, whichever is greater. The Contracting Officer is the sole determiner of the amount of collateral savings.

(h) *Subcontracts*. The Contractor shall include an appropriate value engineering clause in any subcontract of \$50,000 or more and may include one in subcontracts of lesser value. In computing any adjustment in this contract's price under paragraph (f) above, the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs clearly resulting from a VECP accepted by the Government under this contract, but shall exclude any value engineering incentive payments to a subcontractor. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; *provided*, that these payments shall not reduce the Government's share of the savings resulting from the VECP.

(i) *Data*. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

These data, furnished under the Value Engineering -- Construction clause of contract DTFH71-08-C-000XX, shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government's right to use information

contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations.

(End of Section G)

FEDERAL ACQUISITION REGULATION AND TRANSPORTATION ACQUISITION REGULATION CLAUSES

CONSTRUCTION CONTRACT REQUIREMENTS

52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)

The Contractor shall be required to (a) commence work under this contract within (**SEE SF 1442, BLOCK 11 FOR NUMBER OF DAYS**) calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than (**THE TIME INDICATED IN THE CONTINUATION OF THE SF 1442, BLOCK 11**). The time stated for completion shall include final cleanup of the premises. **(End of Clause)**.

52.211-12 LIQUIDATED DAMAGES--CONSTRUCTION (SEPT 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of (**SEE SUBSECTION 108.04 OF THE FP-96/FP-03 AND/OR SPECIAL CONTRACT REQUIREMENTS FOR AMOUNT**) for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause. **(End of Clause)**

52.211-18 -- Variation in Estimated Quantity.

As prescribed in [11.703\(c\)](#), insert the following clause in solicitations and contracts when a fixed-price construction contract is contemplated that authorizes a variation in the estimated quantity of unit-priced items:

Variation in Estimated Quantity (Apr 1984)

If the quantity of a unit-priced item in this contract is an estimated quantity and the actual quantity of the unit-priced item varies more than 15 percent above or below the estimated quantity, an equitable adjustment in the contract price shall be made upon demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing, an extension of time, to be received by the Contracting Officer within 10 days from the beginning of the delay, or within such further period as may be granted by the Contracting Officer before the date of final settlement of the contract. Upon the receipt of a written request for an

extension, the Contracting Officer shall ascertain the facts and make an adjustment for extending the completion date as, in the judgement of the Contracting Officer, is justified. **(End of Clause)**

52.236-1 PERFORMANCE OF WORK BY THE CONTRACTOR. (Apr 1984)

The Contractor shall perform on the site, and with its own organization, work equivalent to at least **50** percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

(End of Clause)

52.236-4 PHYSICAL DATA (APR 1984)

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

(a) The indications of physical conditions on the drawings and in the specifications are the result of site investigations (**SEE CONTINUATION OF SF 1442, BLOCK 9**).

(b) Weather conditions: **CONTACT LOCAL OFFICE OF NATIONAL WEATHER SERVICE, U.S. DEPARTMENT OF COMMERCE.**

(c) Transportation facilities: **N/A**

(d) Other Information: **SEE CONTINUATION OF SF 1442, BLOCK 9.**

(End of Clause)

(End of Section H)

FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION
SPECIAL CONTRACT REQUIREMENTS

Project VA A-AD-48(1)
Mulligan Road (Fort Belvoir Connector Road)

The following Special Contract Requirements amend and supplement the Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP-03) U. S. Customary Units, U.S. Department of Transportation, Federal Highway Administration.

Section 101.—TERMS, FORMAT, AND DEFINITIONS

101.01. Delete the last paragraph.

101.03(a). Add the following:

IPCEA - Insulated Power Cable Engineers Association

Section 102.—BID, AWARD, AND EXECUTION OF CONTRACT

102.04. Add the following:

Furnish documentary evidence as to the ownership and value of the assets pledged in support of the bond and details of the security interest in the assets by the individual sureties for the apparent low bidder within 14 calendar days after the opening of bids. Failure to submit evidence within the time required will be grounds for declaring the surety unacceptable.

In addition, the CO may, after reviewing the Affidavit of Individual Surety and documentary information on the security interest and the assets pledged, by certified mail to the surety's business or residence address (as shown on the bond), request the surety to provide further information and/or documents with respect to any of the documents provided. The CO may require such information to be furnished under oath. Failure of the surety to accept such mail, or failure of the surety to respond with the requested information or documents within 7 business days of receipt of the request, will be cause for rejection of the surety.

These requirements are in addition to the requirements in FAR Subpart 28.203, except where in conflict with the requirements in the FAR, in which case the FAR controls.

102.06. Add the following after the last paragraph:

Submit the documentary evidence for individual sureties at the same time as the Affidavit of Individual Surety and security interest in assets pledged. A Contractor submitting an unacceptable individual surety in satisfaction of a performance or payment bond before the issuance of the Notice to Proceed will be permitted one opportunity to substitute an acceptable surety or sureties within 7 business days of receipt of notification that the surety is unacceptable.

The Government's right to direct the substitution of sureties to ensure the continuing acceptability of the bonds during the performance of the Contract according to FAR Clause 52.228-2, Additional Bond Security, is not restricted.

These requirements are in addition to the requirements in FAR Subpart 28.203, except where in conflict with the requirements in the FAR, in which case the FAR controls.

Section 104.—CONTROL OF WORK

104.03(a). Add the following to the third paragraph:

Drawings will be reviewed in the order they are received.

104.03(b). Add the following after 104.03(b):

(c) As-built working drawings. Furnish 2 sets of as-built working drawings. The Government will provide 2 sets of contract drawings to be used exclusively for recording the as-built details of the project.

Keep the as-built working drawings current on a weekly basis and have at least 1 set available on the jobsite at all times. Accurately and neatly record changes from the contract plans, which are made in the work, or additional information, which might be uncovered in the course of construction, as they occur by means of details and notes. Maintain a log of all changes made to the as-built working drawings, and monthly, at the estimate cutoff date, make the as-built working drawings and log available for review by the CO.

Note all additions or revisions to the location, character, and dimensions of the prescribed work shown on the contract drawings. Line out all details shown that are not applicable to the completed work. Use the red-line process (red pencil or red ink) to record on the as-built working drawings and final as-built drawings, as a minimum, but not limited to, the information described below:

(1) Typical section(s)

(a) Revisions in dimensions; and

(b) Revisions in materials.

(2) Plan and profile

(a) Plan

(1) Revisions to the alignment;

(2) Changes in the construction limits;

(3) Revisions in location, type, and grade of road approaches;

(4) Location and type of utilities;

(5) Location, size, and type of underdrains;

(6) Skew of culverts;

(7) Channel changes;

(8) Location of monuments and permanent references;

(9) Elevations for all aerial and underground crossings of utilities; and

(10) Location, length, and type of fencing.

(11) Stormwater Management ponds including the finished ground contours, outlet structure dimensions and elevations

(b) Profile

(1) Revisions to grades, elevations, and stationing of intersection PIs;

(2) Equations;

(3) Culvert diameter, length, type, and stationing;

(4) Length of culvert extension. and length of existing culvert;

(5) Location, length, stationing, and type of retaining walls; and

(6) Location, length, stationing, and end treatment of guardrail.

(3) Bridge

(a) Stationing of bridge ends;

(b) Elevations including footing, bearing pads, deck, and top of walls;

(c) Pile driving record with pile length, size, type, and tip elevation;

(d) Post-tensioning records including stressing sequence, jacking force, and duct size & layout;

(e) Construction and concrete placement sequences;

(f) Bearing details with orientation;

(g) Expansion joints including actual clearance with atmospheric temperature;

(h) Any changes in plan or dimensions including any major changes in reinforcing.

(4) Miscellaneous

- (a) Revisions to parking areas or turnouts;
 - (b) Final location, type and length of curbs, sidewalks, etc.;
 - (c) Fencing type and limits; and
 - (d) Landscaping and planting
- (5) Special Contract Procedures

- (a) Method of excavation, concrete placement, girder erection, structure repairs, etc

Prepare final as-built drawings after the completion of each definable feature of work as listed in the Contractor Quality Control Plan (Foundations, Utilities, Structural Steel, etc., as appropriate for the project). The as-built working drawings and final as-built drawings will be jointly reviewed for accuracy and completeness by the CO and the Contractor prior to submission of each monthly pay estimate.

If the monthly review finds that the Contractor is not maintaining the as-built working drawings, payment of the Contractor's invoice will be withheld until the as-built working drawings are brought up to date.

Furnish the as-built working drawings to the CO before the final inspection. Correct all details found during the final inspection that are not shown on the as-built working drawings and return to the CO within 5 working days for approval.

Once final as-built working drawings have been approved by the CO, provide final as-built drawings in the latest version of Adobe Acrobat (PDF) format (at the time of submission) on two sets of CD-R or DVD-R. Include the latest version Adobe Acrobat reader on the CD-R or DVD-R. Provide the final as-built drawings with a resolution quality such that the redlined drawings and notations are clearly discernable. Final payment per Subsection 109.09 will not be made until the CD-R or DVD-R of the final as-built drawings have been reviewed and approved by the CO.

No direct payment will be made for maintaining and furnishing as-built working drawings.

Section 105.—CONTROL OF MATERIAL

105.02(b). Add the following:

If any material is to be excavated from any material source outside the construction limits, other than commercially operated sites, before work begins provide a certification from the State Historic Preservation Officer or Indian Tribal Council, if applicable, stating:

- (1) That a cultural resource survey (a survey for historical sites and archeological remains) has been performed at the proposed site, and
- (2) That no significant cultural resources exist in the area that will be disturbed by the Contractor.

Section 106.—ACCEPTANCE OF WORK

106.03. Delete the first sentence of the second paragraph and substitute the following:

Other than references in or to the FAR or Federal Law, when these Standard Specifications or Supplemental Contract Requirements reference certifications; certificates; or certified documents, equipment, or individuals, these references are not certifications under Section 4301 of Public Law 104-106, National Defense Authorization Act for Fiscal Year 1996.

106.05(a) Add the following:

At the Preconstruction Conference, the Government will provide a copy of the computer program "QL-PAY," along with instructions. QL-Pay is a Windows based program that computes the quality levels and pay factors as described in this Subsection.

Section 107.—LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.01. Add the following:

The following permits may be required for this project:

- (a) *Dig Safe Permit*

This list of permits may not be all inclusive of those required for construction. No time or damages, including impact damages, will be allowed for failure to obtain necessary permits or agreements. Provide copies of these permits and agreements upon request.

107.01. Delete the second sentence of the third paragraph and substitute the following:

Obtain all additional permits or agreements and modifications to Government-obtained permits or agreements that are required.

107.02. Add the following after the third paragraph:

For the full duration of construction, protect the existing trees that are tagged by the CO in the following manner:

- (a) Install and maintain a 4-foot high wood slat fence with steel posts around the perimeter

of the root protection area, per Subsection 619.06. The root protection area is defined as an area equal to 10 feet outside the dripline.

(b) All construction which takes place within the root protection area must be approved by the CO. Do not store or locate construction materials, vehicles, staging areas, topsoil, disposal areas, or trailers within the root protection area. Protect the area from flooding, erosion, sedimentation, and potentially harmful materials through run-off or spillage.

(c) Remove all tree protection prior to final acceptance.

107.02. Add the following after the sixth paragraph:

Notify the CO in writing at least 48 hours in advance of any scheduled utility shutdown, investigation, and /or related work.

The following is a list of utility companies with potential utilities within the project area. This list may not be all inclusive, and it is the Contractor's responsibility to ensure that all potential utility impacts are located, identified, and coordinated:

Dominion Virginia Power(Privatization)

Mr. Eric Tatum
703-838-2351

Dominion Virginia Power

Ms. Denise Stevens
703-440-5263

Fairfax Water

Mr. Bill Johnston
Supervisor Engineering Inspection
703-369-9571

Verizon

Mr. Bill Lacy
703-369-9571

Fairfax County Dept. of Public Works

Mr. Michael Gallo
703-324-5800

Washington Gas

Mr. Alan Melliza
703-750-4256

Contact all utility owners at least 14 calendar days in advance of any construction activities in the vicinity of their facilities. Fairfax Water and the Fairfax County Department of Public Works must have a representative on site during all work adjacent to and on their facilities.

107.05. Add the following after the second paragraph:

Submit all claims to the insurance company for investigation, regardless of deductible, unless the Contractor has chosen to pay the claim directly. Provide the results of any investigations and subsequent actions to the CO within 1 week of receipt from the insurance company or of action. Determination by the insurance company that the claim is not covered by the policy is not an adequate basis for the Contractor to fail to meet its obligations under the requirements of this Section.

Section 108.—PROSECUTION AND PROGRESS

108.01. Add the following:

Construction operations are limited as follows:

The Contractor must maintain a secure fence perimeter at all times for the Humphreys Engineer Center near the Piney Run Bridge Site. The replacement fence sections must be installed prior to performing any other work at this location.

Do not close any lanes on Old Mill Road, Pole Road or Telegraph Road during rush hours. Rush hours are defined as **6:00 AM to 9:30 AM and from 3:00 PM to 7:00 PM, Monday through Friday.**

Supply a list of all personnel accessing the project site containing their full name, social security number and citizenship to the Department of Defense prior to accessing the site. Submit updates to this list as construction progresses.

The project requires Contractor Munitions and Explosives of Concern (MEC) Construction Support in the Mulligan Road limits of range clearing, as this area was cleared of subsurface MEC during the Engineering Evaluation/Cost Analysis (EE/CA) field investigation, as performed by Fort Belvoir. Every subsurface anomaly identified within the limits of range clearing was intrusively investigated and all recovered MEC was disposed of by detonation. Since the potential of encountering additional MEC in the limits of range clearing is low, Contractor MEC Construction Support will be on an “on-call” basis. On-call UXO services are not on-site, but are available to respond as needed. If construction activities uncover a suspicious item resembling MEC, the contractor will contact Fort Belvoir Department of Public Works (DPW), and the local Explosive Ordnance Disposal (EOD) unit to respond and investigate. If the probability of encountering MEC changes from low to moderate or high, the contractor will employ the MEC Construction Support (Standby). Standby UXO services are on-site during the construction activities; but are not actively performing any clearing operations.

Work outside of the limits of range clearing requires Contractor MEC Construction within the Demo Area – TD and T-16 (identified on the Fort Belvoir Range Clearing Map for the EE/CA field investigation) as there is a potential of encountering MEC at both sites. The level of effort for construction support (“on call” or “stand by”) is both site specific and task specific and will be determined on a case-by-case basis. Depending on the probability of encountering MEC (low or moderate to high), Contractor MEC Construction Support may require that at least two UXO technicians be available onsite to support all construction activities. Conduct all Contractor MEC Construction Support in accordance with USACE Engineering Pamphlet (EP) 75-1-2, *Munitions and Explosives of Concern (MEC) Support During Hazardous, Toxic, and Radioactive Waste (HTRW) and Construction Activities*, dated 01 August 2004.

The contractor should develop an education program for all workers conducting activities within the Mulligan Road limits of disturbance. Tailor the training to ensure that workers are aware of

and understand the hazards associated with MEC-contaminated sites and instruct them on the necessary precautions to avoid exposure and to report suspicious items encountered. Prior to beginning any ground disturbance activities, submit an Education Program Plan and course material to the CO and USACE for approval.

Qualified UXO Technicians as defined in Department of Defense Explosive Safety Board (DDESB) Technical Paper 18 will perform MEC/anomaly avoidance during the initial site visits and construction support (low probability) during the execution of this work. Conduct the screening activities prior to any ground disturbance activities if these activities will be outside of the limits of range clearing. This work will consist of surface sweeps using appropriate instrumentation. While driving piles, clear all pile locations by pre-drilling at the pile locations, utilizing a down-hole magnetometer, every 2 feet to a depth of 10 feet below ground surface elevation. Anomalies must be coordinated with the qualified UXO Technicians assigned to the project.

In the event that a MEC is encountered, the Contractor will stop work, assume a 400-foot diameter clearance zone around the discovered suspected MEC and notify the CO, USACE, and UXO Technician for appropriate action. If the items found can easily be removed, the UXO Technicians will coordinate the activities. However, if an unexpected MEC disposal pit is discovered, the Contractor will provide support. An unexpected condition would consist of finding ten or more MEC items in a disposal pit. Provide a qualified UXO staff for remediation of any unexpected conditions.

Based on previous work at the site, a disposal pit would likely require clearance of both MEC and cultural debris from a pit with dimensions of 20' x 40' x 15'. In such a case it is likely the contractor should anticipate needing support from a 7 person UXO team for a minimum of 3 weeks of effort. Further, the Contractor will be prepared to submit all required supporting explosive safety submissions/documentation.

No work will be permitted on Sundays or National legal holidays, unless approved by the CO.

Provide a minimum of 2 feet of cover over all waterlines during construction operations.

Section 109. - MEASUREMENT AND PAYMENT

109.06 Pricing of Adjustments Add the following

FUEL PRICE ADJUSTMENT PROVISION

GENERAL The Fuel Price Adjustment Provision provides for a price adjustment in the form of payment to the Contractor or a rebate to the Government for fluctuations in the cost of diesel consumed in the performance of applicable construction work. The price adjustment provisions are applicable only to those contract items listed as eligible pay items in Table 1 below, if diesel is used as the primary fuel in the production of the affected items. The price adjustment

provisions are also applicable to these eligible pay items when the Government adds extra work to the Contract.

The provision will remain in effect throughout the duration of the contract. Enactment of the Fuel Price Adjustment Provision will only be considered when the **increase or decrease** in the price of motor fuel as defined herein exceeds 10 percent.

PRICE INDEXES The Government will generate a monthly performance price index which may be obtained from the CO for Low Sulfur, No. 2 Diesel Fuel using price data obtained from the Oil Price Information Service (OPIS), which publishes a weekly report on gasoline and distillate reseller prices for major cities in five regions throughout the United States including the East Coast (PADD 1), the Midwest (PADD 2), the Gulf Coast (PADD 3), the Rockies (PADD 4) and the West Coast (PADD 5). Weekly average rack price data reported for Fairfax, Virginia will be averaged and used to establish a base price index, BPI, for this project and a monthly performance price index, MPPI, for the duration of the contract. These indexes are defined as follows:

- **BASE PRICE INDEX** The base price index, BPI, is the price index posted by the Government as determined by arithmetic average, as specified above, shown in the four weekly publications immediately preceding the bid opening. It is as follows:

BASE PRICE INDEX (BPI) FOR LOW SULFUR, NO. 2 DIESEL FUEL
PER GALLON = \$ _____

- **MONTHLY PERFORMANCE PRICE INDEX** The monthly performance price index, MPPI, is the monthly price index at the time of performance of applicable work as determined by arithmetic average, as specified above, shown in the four weekly publications issued prior to the last Wednesday of the month (i.e. the monthly performance price index during which motor fuel is consumed in the performance of applicable construction work).

PRICE ADJUSTMENTS Price adjustments are calculated by the Government for average conditions and are not intended to reflect the Contractor's actual purchase price. The ratio of the monthly performance price index and the base price index (MPPI/BPI) is calculated and used to determine price adjustments for eligible pay items as follows:

- **No Price Adjustment** – When the ratio MPPI/BPI falls within the range of 0.90 to 1.10, no price adjustment will be made for any motor fuel consumed in construction work performed during the relevant month.
- **Government Rebate** – When the ratio MPPI/BPI is calculated to be less than 0.90, the Government is due a rebate determined in accordance with the following formula:

$$\text{Government Rebate} = [0.90 - (\text{MPPI/BPI})] (\text{BPI}) (\text{Q}) (\text{FUF})$$

- **Contractor Payment** - When the ratio MPPI/BPI is calculated to be greater than 1.10, the Contractor is due additional payment determined in accordance with the following formula:

$$\text{Contractor Payment} = [(\text{MPPI}/\text{BPI}) - 1.10] (\text{BPI}) (\text{Q}) (\text{FUF})$$

The following definitions are applicable to both the Government Rebate and the Contractor Payment formulas:

MPPI = Monthly Performance Price Index for the month during which motor fuel is consumed in the performance of applicable construction work.

BPI = Base Price Index that is established immediately preceding the bid opening.

Q = Quantity of work on the project during the progress payment period for eligible pay items shown in Table 1 below. The Government, to agree with the units associated with the applicable Fuel Usage Factor, will convert work quantities, as necessary.

FUF = Fuel Usage Factor shown in Table 1 below applicable to both diesel and gasoline.

Table 1 – Eligible Pay Items For Price Adjustments and Associated Fuel Usage Factors		
Eligible Pay Items	Fuel Usage Factor U.S. Customary Units	Fuel Usage Factor Metric Units
Earthwork:		
Section 204 – Excavation and Embankment 20402 Subexcavation 20410 Select borrow 20420 Embankment construction	0.30 gallons per cubic yard	0.39 gallons per cubic meter
Aggregate Courses:		
Section 301 – Untreated Aggregate Courses 30101 Aggregate base	0.70 gallons per ton	0.77 gallons per metric ton
* The Government, to agree with the units associated with the applicable Fuel Usage Factor, will convert work quantities, as necessary.		

PRICE ADJUSTMENT COMPENSATION Monthly adjustments will be accrued. The final price adjustment will be paid, or rebated, after completion of all work for eligible pay items. The Contractor may request in writing a partial price adjustment payment once every 12 months, or when the unpaid accrued increase exceed \$10,000. The Government will take a rebate when the deductive accrual exceeds \$10,000.

No price adjustments will be made for work performed beyond the Government-approved Contract completion date.

The maximum allowable monthly and final price adjustment to the Contractor or rebate to the Government is limited to a (MPPI/BPI) ratio of 1.6 and 0.4, respectively.

109.08(b). Add the following:

Submit invoices by the 7th day after the closing date. Invoices received after the 16th day following the closing date will not be accepted for payment processing that month. Include late, unprocessed invoice submittals in the following month's invoice.

109.08(c). Add the following:

The government's designated billing office is:

Federal Highway Administration
 Eastern Federal Lands Highway Division
 Loudoun Tech Center
 21400 Ridgetop Circle
 Room 200
 Sterling, Virginia 20166-6511
 ATTN: CONSTRUCTION DIVISION

Section 152.—CONSTRUCTION SURVEY AND STAKING

152.03. Delete the text of paragraphs **(i)** and **(j)**.

152.03(a). Add the following:

Set benchmarks (at least every 1,000 feet of roadway). Replace any missing control points.

152.03(k). Add the following:

Perform the portion of the survey work required to establish permanent monuments and markers by a land surveyor registered in the Commonwealth of Virginia

152.03(l)(9) and (10). Delete the subsections and replace with the following:

(9) Traffic control (both permanent and temporary) signs, signals, markings, delineators, object markers, etc.

152.03(l). Add the following:

(10) Excavation limits for various drainage, walls, structures, and other pertinent items.

(11) Landscaping work.

Section 154.—CONTRACTOR SAMPLING AND TESTING

154.03. Add the following:

Furnish test results to the CO immediately after completing the test. The requirements for furnishing test results do not include sample aging or curing time; therefore, reporting times will be extended accordingly.

Submit proposals for using alternate AASHTO or State approved test methods in writing for approval. Alternate methods may be allowed based on documented equivalence to the method specified.

154.04. Add the following:

On a weekly basis, submit a copy of all current Contractor test results and pay factor calculations based on those tests for items accepted under Subsection 106.05. When large quantities are produced, calculate pay factors as soon as possible. Use this information to make any necessary adjustments to operations to achieve acceptable pay factors. The Government may use the Contractor's test results to determine final pay factors for acceptance according to Subsection 154.05.

Section 155.—SCHEDULES FOR CONSTRUCTION CONTRACTS

155.02 through 155.09. Delete the Subsections and substitute the following:

Construction Requirements

155.02 General

(a) General format and purpose of the project schedule.

(1) Develop a network plan and schedule, demonstrating fulfillment of the contract requirements. Keep the network up to date and utilize the plan for scheduling, coordinating, and monitoring work under this contract. The network schedule shall be computer-generated using Primavera software or software that is file compatible with Primavera. The schedule shall be called the Critical Path Method - Project Schedule (CPM-PS).

Use the principles and definitions of the terms in The Association of General Contractors in America (AGC) publication "Construction Planning & Scheduling", copyright January 1994, except that this specification shall govern in the case of conflicts.

(2) Use the CPM-PS for coordination and monitoring of all work under this contract, including all subcontractors and suppliers. If a subcontract has not yet been awarded for a certain portion of the work, develop the schedule for that work. After any subsequent

subcontract award, propose a revision to the CPM-PS to reflect any changes resulting from this new contractual arrangement.

(3) No construction work on the project (other than mobilization and traffic control) is allowed without an approved 60-day Preliminary Activity Schedule (PAS).

(4) No progress payments will be made until the Initial CPM Progress Schedule (Initial CPM-PS) has been approved.

(b) Contractor's Representative. At or before the Preconstruction Conference, designate an individual in the Contractor's organization who shall be the Contractor's authorized representative responsible for the preparation, updating, and revision of the Project Schedule and who shall review and report progress of the project with and to the CO. This person shall be skilled in the application of computer network scheduling techniques on construction projects of the magnitude and complexity of this project.

(c) Weather Delays.

(1) Weather Delay Definitions.

(a) Reasonably Predictable Weather. The number of workdays that can be expected to be lost in any month due to rainfall based on 10-year historical weather data.

(b) Rain Day. A potentially lost workday on which rainfall is equal to or greater than 0.10 inches.

(c) Drying Day. A work day(s) immediately following a rainfall equal to or greater than 1.00 inch which is potentially lost because of wet ground conditions.

(d) Workday. A day not excluded from work by Section 108 of the Special Contract Requirements.

(e) Unusually Severe Weather. When the number of Actual Workdays Lost is greater than the calculated Total Lost Days for the month in question.

(2) Reasonably Predictable Weather. Determine Reasonably Predictable Weather for this contract by completing Table 155-1. Calculate data for Table 155-1 as follows:

(a) Using the last 10 years of historical weather data from the nearest NOAA weather data collection station, compute the average number of workdays lost (rain days plus drying days) for each month and the standard deviation from the average. Add the average number of workdays lost to the standard deviation.

(b) The Total number of Lost Days (Average Workdays Lost plus one Standard Deviation, rounded to whole days) will be considered normal for each month.

(c) Submit a completed Table 155-1 with the initial construction schedule.

(3) Unusually Severe Weather Under FAR Clause 52.249-10, Default (Fixed-Price Construction), the Contractor can request time for a delay due to Unusually Severe Weather.

The number of Actual Workdays Lost is calculated by first totaling the actual Rain Days plus the actual Drying Days occurring in the month in question. From this total, deduct any workdays meeting the following conditions:

(a) The Rain Day or Drying Day occurred on a non-work weekday such as a holiday.

(b) Rainfall occurred at a time when no weather dependent work was in progress or occurred during planned or unplanned shutdowns due to other circumstances such as equipment failure, strikes, material supplies, delays, etc.

(c) The Contractor was still working or able to work on weather dependent activities to the extent that less than 50 percent of the workday was lost due to weather.

If the net number of Actual Workdays Lost is greater than the Total Lost Days, then Unusually Severe Weather occurred during the month in question.

(4) Time Adjustments for Rain Delays. If the net number of Actual Workdays Lost to rain is less than the Total Lost Days for the month in question, no time adjustments will be made. If the net number of Actual Workdays Lost is more, then an excusable time extension may be granted. The Contractor must submit a Weather Time Impact Analysis supporting any alleged delays due to Unusually Severe Weather.

(5) Delays Due To Other Weather Conditions. Delays due to other unusually severe weather conditions (snow, extreme cold or heat, high winds, etc.) must be supported with a Weather Time Impact Analysis using historical weather data.

155.03 60-DAY PRELIMINARY ACTIVITY SCHEDULE (PAS)

(a) Requirement to Submit. At least 5 working days before the Preconstruction Conference, submit 5 copies of a 60-Day Preliminary Activity Schedule (PAS) to the CO for review and approval.

(b) Form. Submit the PAS in written narrative form and include a detailed breakdown of all contract activities scheduled for the first 60 calendar days after Notice to Proceed.

Include an overall description of site mobilization, all shop drawing and sample submittals, and the fabrication and delivery of key and long-lead procurement activities. Indicate intended submittal dates and realistic delivery dates for fabrication and delivery items. Provide sufficient time, in accordance with Subsection 155.03(c) for the CO to review, approve and dispatch each shop drawing or submittal after its receipt with the required

information.

(c) Review and Approval of the PAS. The CO will respond in 14 calendar days to the PAS submission and either approve the PAS or request revisions. Provide the requested revisions in 7 calendar days.

(d) Effect of the PAS. Submission and use of an approved PAS does not relieve the Contractor from the requirement to provide and implement an approved Initial CPM-PS.

155.04 Initial (Baseline) CPM Project Schedule (Initial CPM-PS)

(a) Submission. Within 30 calendar days after the Notice to Proceed, develop a proposed initial CPM-PS and submit 5 hard copies of all CPM-PS documents and 2 copies of 3.5-inch high density computer diskettes containing the Primavera compatible files to the CO for review. The initial baseline CPM-PS shall reflect the Contractor's planned performance of the contract work including all contractual requirements (e.g. construction or traffic staging) and any physical constraints on the project. The initial baseline CPM-PS will be the basis on which any impacts from future contract modifications are determined. Proposed changes to the contractual requirements must be submitted, approved, and then may be included in revisions to the CPM-PS.

(b) Form and Requirements of the CPM-PS. The CPM-PS shall consist of a schedule diagram and supporting documents. The initial CPM-PS shall conform to the following:

(1) Prepare the schedule diagram using the activity-on-arrow diagram method (ADM) or the precedence diagram method (PDM). Depict the order and interdependence of all activities and the sequence of the work that will be accomplished by the Contractor in coordination with its subcontractors. Show how the completion of predecessor activities restricts the start of successor activities.

(2) Cover all activities required by the contract, including both construction and non-construction. To the extent feasible, define and relate an activity (or groups of activities) to contract pay items.

(3) The CO may require that unreflected items, or components of work within an item, be added to the diagram as separate activities, based on what the CO considers to be reasonable for a project of this scope and complexity.

(4) Failure to include in the CPM-PS any elements of work required for performance of the contract will not excuse the Contractor from completing all work required by the contract by the contract completion date.

(5) The CPM-PS shall begin with the date of issuance of the Notice to Proceed and conclude with the contract completion date established in the contract. Float or slack time within the CPM-PS is not for use or benefit of either party, but is a jointly owned, expiring project resource available to both parties as needed to meet the completion date

established in the contract. No time extensions will be granted nor delay damages paid until a delay occurs which impacts the project's critical path, consumes all available float, and extends the work beyond the contract completion date.

(6) Supporting documents shall include a submittal list, written narrative, tabulated schedule, and weather Table 155-1.

(c) A Time-Scaled Network Logic Diagram shall be submitted for the initial CPM-PS. Include the following on the schedule diagram:

(1) All activities including those covered by the PAS. Include activities for correcting punchlist items and general cleanup.

(2) Show all activity nodes or boxes, activity IDs, activity descriptions, and durations.

(3) Group the activities independently by area (i.e. separate distinct bridges or roadways) and by type of work (e.g. submittals, utilities, roadway, bridge).

(4) Include a concise description of the work represented by each activity, which shall be placed at or near the event node or box for each activity. If the project is of sufficient complexity that the concise description cannot be legibly placed on the diagram, submit a tabulation of all activities by their event node or box numbering and description.

(5) Code each subcontractors' activities so that their activities can be shown separately as well as cumulatively.

(6) Construction activities shall have durations of whole working days, with a maximum duration of 25 working days each. Divide activities with longer durations into subgroups of activities not exceeding 25 working days in duration. Indicate logical start and end points (e.g. stationing, staging, etc.) for each subgroup.

(7) Non-construction activities may have durations exceeding 25 working days consistent with the contract. Non-construction activities include mobilization, all shop drawing and sample submittals, and the fabrication and delivery of key materials. Indicate intended submittal dates and realistic delivery dates for fabrication and delivery activities. Provide the required times for CO review, approval, and dispatch of each submittal and resubmittals. Where no times are specified, provide 14 calendar days for the review, approval, and dispatch of each submittal and resubmittals after receipt by the CO.

(8) Indicate the total number of anticipated working days to complete each activity of work.

(9) Identify the critical path on the diagram.

(d) Supporting documents

(1) Submittal List. Submit a list of all drawing and sample submittals required for the entire contract period. Include:

- (a) Contractor Quality Control Plan;
- (b) Asphalt Mix Designs;
- (c) Concrete Mix Designs;
- (d) Bridge Falsework and Formwork Designs;
- (e) Manufactured Items;
- (f) Test Panels;
- (g) Contract Specialty Items.

(2) Include the following information for each submittal:

- (a) Bid Item Number;
- (b) Item Description;
- (c) Related Activity ID Number and Description from the CPM-PS;
- (d) Planned Date of Initial Submittal;
- (e) Planned Date of CO's Initial Response;
- (f) Comments.

(3) Written Narrative. Provide a written narrative describing the rationale and assumptions utilized in the development of the proposed CPM-PS schedule. The narrative will serve, in conjunction with the diagram, as the basis for the CO's review and approval of the CPM-PS. This narrative should use the schedule diagram as the basis of all schedule-related comments, referencing specific activities by number and description. Include the following in the written narrative:

- (a) A description of the planned critical path and the general sequence of work.
- (b) Information and references to adequately define the scope of work included in each major activity type (e.g. roadway excavation, aggregate base course). This would include such information as station numbers, location, etc.
- (c) A description of the resource loading planned for use in the performance of the

work for each major activity. The Contractor's determination of major activities is subject to approval by the CO. The description should include manpower allocation by types of labor and crew size, types and number of equipment and any special equipment, materials, and subcontractors involved.

(d) A description of the basis (including the resource loading above) for the calculation of the duration for all major activities, to be stated as quantity production rates (e.g. cubic feet of excavation per day, etc).

(e) A description of planned workdays per week (Monday through Friday, or Saturday), number of shifts per day, and number of hours per shift.

(f) A description of the assumptions used in converting working days to calendar dates; including anticipated holidays, non-work (idle) days, Contractor scheduled winter shutdowns, contract constraints, and weather constraints as determined in Subsection 155.02(c).

(g) Identify the subcontractor or supplier performing an activity and identify their activity codes used on the schedule diagram. State all assumptions made in the scheduling of the subcontractor's or supplier's work.

(h) Describe expected and critical delivery dates for equipment or material that can affect timely completion of the project.

(i) Describe critical completion dates for maintaining the construction schedule.

(j) A description of any organizational limitations such as resource constraints or subcontractor commitments, which limit scheduling flexibility.

(k) Ensure that there is no conflict between the diagram and the narrative. The CO's approval of the CPM-PS does not waive this responsibility.

(4) Tabular schedule. Provide a computer generated tabular schedule using the Classic Schedule Report format sorted by early start and total float. The tabular schedule shall include the following data: activity ID, original and remaining duration, activity percent complete, subcontractors codes, activity description, early and late schedule dates, and total float. Two copies of the computer diskettes containing this data shall be submitted with the CPM-PS along with the hard copy printouts of this tabular schedule.

Other tabular schedule report formats may be requested to analyze CPM-PS revisions or time impacts.

(5) Reasonably Predictable Weather. Submit a completed Table 155-1 using 10-year historical weather data from the nearest NOAA weather data collection station (see Subsection 155.02(c)).

(e) Review and Approval of the Initial CPM-PS

(1) Within 21 calendar days of receipt of the proposed CPM-PS, the CO will either approve the proposed CPM-PS or convene a Joint Review Conference at which the CO and the Contractor will discuss corrections and adjustments to the proposed CPM-PS. If any corrections or adjustments to the proposed CPM-PS are agreed upon or directed by the CO based on this review, adjust the CPM-PS and submit to the CO for review and approval within 14 calendar days after the date of this meeting. No progress payment will be made until an initial baseline CPM-PS is approved.

(2) When an initial baseline CPM-PS is approved, the CO will return an approved copy of the CPM-PS to the Contractor. This approved CPM-PS with its supporting documents becomes the CPM-PS of Record. Thereafter, implement and execute the work under the contract in accordance with this schedule, unless, a revision to this schedule is approved by the CO. An approved updated or revised CPM-PS becomes the current CPM-PS of Record. The current CPM-PS of Record will be considered the Contractor's work plan for completing the entire contract.

155.05 CPM-PS Updates

(a) Definition of a CPM-PS Update. A CPM-PS Update is a normal monthly updating of the current CPM-PS of Record with no changes in the schedule logic or activities and no changes to the critical path. An Update shall reflect work completed to date, as well as the Contractor's projection of work yet to be completed. A normal Update should show the project being completed by the Contract Completion Date.

An Update may show negative float in the schedule (i.e. the actual completion occurs later than the Contract Completion Date). Receipt of an Update with negative float does not constitute agreement by the Government with the revised completion schedule. The reason for late completion (Government, weather, or Contractor caused delay) must be clearly explained in the written narrative. Any change to the CPM-PS of Record regarding work that is still to be completed, can only be effected by a CPM-PS Revision, including a Time Impact Analysis.

Negative float due to Contractor caused delay may result in the following actions by the CO: a request for a revision to the schedule to meet the Contract Completion Date; retent withheld from progress payments; assessment of liquidated damages; issuance of a cure notice; or termination.

(b) Timing of Updates. Monthly job site meetings to review progress and payment quantities will be held on a date mutually agreed to by the CO and the Contractor. Submit a CPM-PS Update to the CO 3 working days before the meeting date.

(c) Form and Requirements of the CPM-PS Update. Submit the following:

(1) Tabular Schedule (Classic Schedule Report), updated as follows:

- (a) Actual finish dates for completed activities;
 - (b) Remaining duration required to complete each activity started, or scheduled to start, but not completed;
 - (c) Float remaining for each activity;
 - (d) Percentages for completed and partially completed activities;
 - (e) The CO may request additional tabular schedules using different sort parameters.
- (2) The Submittal List updated as follows:
- (a) Actual date(s) of initial (and all subsequent) submittal(s);
 - (b) Actual date(s) of CO's initial (and subsequent) response(s);
 - (c) Status of CO's initial (and subsequent) response(s) (i.e. Approved, Rejected, Approved As Noted, etc.)
 - (d) Comments.
- (3) **Written narrative.** Identify all changes made to the schedule since the last update. Describe any issues that occurred in the previous month impacting the schedule (e.g. delaying factors and their estimated impact on performance of other activities and completion dates; weather delays; and an explanation of corrective action taken or proposed). Describe any changes in the resource loading.
- (4) Provide an updated Time-Scaled Logic Diagram when requested by the CO.

(d) Review and Approval of the CPM-PS Update

- (1) The CO will review and approve the CPM-PS Update within 7 calendar days or return it for corrections. The approved CPM-PS Update shall become the current CPM-PS of Record.
- (2) No monthly progress payment will be made until a CPM-PS Update is approved.

155.06 CPM-PS Revisions

(a) Definition of a CPM-PS Revision. A CPM-PS Revision reflects a significant change to the schedule logic, schedule activities, activity durations or some other modification to the schedule of planned work. Activities performed out of sequence from the CPM-PS of Record affecting the critical path will require a CPM-PS Revision.

(b) Timing of a Revision. Submit proposed revisions to the CPM-PS in writing, as they are determined necessary by either party. A revision shall be submitted in conjunction with any contract modification that affects the CPM-PS of Record. Submission of a proposed CPM-PS Revision will not in itself be considered to be Notice to the CO of a delay or disruption, or of any other basis for a change under the Contract. Refer to the notice requirements in other sections of the Contract. Continue to submit monthly CPM-PS Updates to the current CPM-PS of Record until a CPM-PS Revision is approved.

(c) Form and Requirements for Submitting a Proposed CPM-PS Revision. Submit the following:

(1) Written narrative. All proposals to revise the CPM-PS shall include a written narrative describing the changes to the critical path and any logic revisions or modifications to the schedule, including, but not limited to, changes in the resource loading, in durations, in specifications, in subcontractors, the addition or deletion of work, increased or decreased quantities, defective work, and acceleration of the work.

Delays and disruptions, which are ongoing and of uncertain duration as of the date of the proposed revision, shall be identified. When any delays or disruptions have occurred which are the contractual responsibility of the Contractor (i.e. which do not entitle the Contractor to a time extension under the terms of the Contract), advise the CO of the proposed efforts to return the project to a schedule consistent with the terms of the Contract--including the commitment of additional resources or other appropriate action. If this is not possible, advise the CO of the extent to which completion dates or other terms of the Contract will not be met so the Government may evaluate its options under the terms of the Contract.

(2) Time Impact Analysis. Submit a Time Impact Analysis according to Subsection 155.07.

(d) Execution of a Proposed CPM-PS Revision. When the parties agree to a proposed CPM-PS Revision, submit 5 hard copies of the revised CPM-PS and 2 copies of the computer file diskettes within 7 calendar days after the parties reach agreement. The revised CPM-PS shall include all of the items required by Subsection 155.04(b), plus a narrative description of the basis for the approved revisions to the CPM-PS. The approved CPM-PS Revision shall become the current CPM-PS of Record.

155.07 Time Impact Analysis

(a) General. A Time Impact Analysis is the procedure by which the Contractor demonstrates the effect of specific time impacts on the overall project CPM-PS. Time impacts may result in an increase or decrease in contract time.

If the Contractor does not submit a Time Impact Analysis, it is mutually agreed that the particular event does not require an extension of time to the Contract Completion Date, and the Contractor waives its right to subsequently request a time extension.

Once any Time Impact Analysis is approved by the CO, both parties agree to waive any rights to re-evaluate the impacts, evaluated therein, at a later date.

(b) Situations Requiring a Time Impact Analysis

(1) CO Requested Contract Modifications. When requested by the CO in connection with a proposed contract modification, prepare a proposed revision to the CPM-PS of Record with a Time Impact Analysis reflecting, in detail, the anticipated impact of the contract modification. This revised CPM-PS will be used as a basis to modify the contract time resulting from the contract modification.

(2) Time Impacts of a Contractor Proposed Contract Modification. When notification of a Contractor proposed contract modification is given which may result in a time impact under the terms of the contract, (see Subsection 155.07(d)), identify the events and provide written notice to the CO within 7 calendar days after the commencement of the alleged time impact. This notice shall detail the contractual basis for the time impact.

Within 14 calendar days after the end of the time impact event, for which the Contractor has given notice, submit a Time Impact Analysis which reflects and analyzes the alleged event or contract modification.

(3) Weather Delays. Submit a Weather Time Impact Analysis for alleged weather delays according to Subsection 155.02(c).

(c) Form and Requirements of a Time Impact Analysis. Consecutively number each Time Impact Analysis. Include in each Time Impact Analysis, the following documents or information:

(1) The CPM-PS of Record at the time of the alleged impact (Affected CPM-PS).

(2) Narrative Impact Analysis. Provide a detailed narrative description of each alleged impact event. The alleged impact to each and every specifically affected activity in the Affected CPM-PS shall be described in detail, including how each activity referenced in the Time Impact Analysis reflects the alleged impact. This narrative shall describe:

(a) The cause of the impact;

(b) The start date of the impact;

(c) The duration of the impact, specifically describing how Contractor caused delays were deleted from the analysis;

(d) The activities affected; and

(e) Whatever methods the Contractor can employ, at no or minimal cost to the Government, to re-sequence or reschedule the work to mitigate the delay.

(3) As-Properly Impacted Schedule. Revise the Affected CPM-PS to show the impact of the activities identified in Subsection 155.07(b), including any re-sequencing which would mitigate the delay. If the contract completion date is delayed, note the amount of the requested time extension as a request for a delay to that date.

(d) Analysis of a Time Impact

(1) General.

(a) Any request for an extension of the contract time will be determined by the CO's review of the Time Impact Analysis' effect on the Affected CPM-PS;

(b) Activity delays will not automatically mean that an extension of the Final Contract Completion Date is warranted or due. A Contract Modification or delay may not affect existing critical activities or cause non-critical activities to become critical, but may result in only absorbing a part of the available total float that may exist within an activity chain of the Network, thereby not causing any effect on the Final Contract Completion Date.

(c) Only delays to activities which affect the Contract Completion Date will be considered for a time extension. The extension of the specified completion date will be based upon the actual number of calendar days the Contract Completion Date is adjusted.

(d) Extensions of time to the Contract Completion Date under the FAR Clauses 52.243-4, Changes; 52.236.2, Differing Site Conditions; or 52.212-12, Suspension of Work, will be granted only if requested in writing by the Contractor within the applicable notice period.

(2) Float. No extension to the Contract Completion Date will be issued for work performed on activities with available float. Float is defined as the amount of time between when an activity "can start" (the early start) and when an activity "must start" (the late start). Float is a shared commodity, not for the exclusive use or benefit of either party. Either party has the full use of the float until it is depleted. Float may be consumed by the Contractor through routine operational considerations; by the Government through contract modifications, or other actions, which are its responsibility; or by unusually severe weather, strikes or other actions which are the responsibility of neither the Contractor nor the Government. Each updated or revised CPM-PS shall depict float as it is currently projected. Once all or part of this float has been consumed, it will no longer be an issue with respect to subsequent events.

(3) Contractor's Duty to Mitigate. It is the Contractor's duty to attempt to mitigate delay. Analyze and discuss what measures the Contractor plans to take to mitigate delay.

Include as a minimum those items of no cost to the Government. Accompany any measures which are alleged to increase cost, such as additional staffing or equipment, by corresponding rationale and assumptions which analyze the additional requirements. In addition, any Time Impact Analysis which does not include a discussion of the feasibility of re-sequencing future work to mitigate delay at no cost to the Government will be rejected.

(e) Extensions to Contract Dates. The Government desires all contract work (including all work associated with an approved time impact analysis) to be completed by the Contract Completion Date. Therefore, any time extensions to the Contract Completion Date will require a contract modification. In addition, no increased cost will be paid to the contractor to accelerate the work unless the Contractor has expressly notified the Government under FAR Clause 52.243-4, Changes, and a contract modification has been issued.

(f) Execution of the Time Impact Analysis. Incorporate approved logic changes or time extensions into the CPM-PS by or before the next monthly meeting.

155.08 Failure to Maintain Sufficient Progress. The Contractor shall furnish sufficient forces, offices, facilities, and equipment, and work such hours, including multiple shift and overtime operations, as is necessary to ensure progress consistent with the requirements of the contract and the current CPM-PS of Record.

The currently approved CPM-PS of Record will be used to evaluate progress as required by FAR Clause 52.232-5, Payments Under Fixed-Price Construction Contracts. If the Contractor's actual progress is less than that required by the currently approved CPM-PS of Record for completion by the Contract Completion Date, 10 percent of the amount of all progress payments will be withheld until completion, or until progress is improved for completion by the Contract Completion Date.

If the Contractor fails to improve progress for completion by the Contract Completion Date, the Government may exercise its rights and options pursuant to FAR Clause 52.249-10, Default (Fixed-Price Construction), including the issuance of a Termination for Default.

Measurement

155.09 Measure the Section 155 items listed in the bid schedule according to Subsection 109.02.

Payment

155.10 The accepted quantities will be paid at the contract price per unit of measurement for the Section 155 pay item listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Progress payments for construction schedule will be paid as follows:

(a) 25 percent of the unit bid price will be paid upon approval of the Initial CPM-PS, not to

exceed 0.25 percent of the original contract bid amount.

(b) The remaining portion will be paid in increments equal to the progress of the work, not to exceed 0.5 percent of the original contract bid amount.

(c) Any portion of the lump sum in excess of 0.5 percent of the original contract amount will be paid after final acceptance.

Add the following at the end of the Subsection:

TABLE 155-1

Project Number _____

Location of NOAA Data Collection Station _____

Data Years (10-year history): 19__ through 20__

REASONABLY PREDICTABLE WEATHER

MONTH	AVERAGE WORKDAYS LOST	STANDARD DEVIATION	TOTAL LOST DAYS
JANUARY			
FEBRUARY			
MARCH			
APRIL			
MAY			
JUNE			
JULY			
AUGUST			
SEPTEMBER			
OCTOBER			
NOVEMBER			
DECEMBER			

Section 156.—PUBLIC TRAFFIC

156.03. Add the following:

Hauling will only be permitted from the nearest point of public access to the work site. Minimize hauling over completed pavement.

156.04. Add the following:

(f) Ensure that all drains and inlets within the project limits are fully functional throughout the duration of the project.

156.06(b). Delete the second sentence and substitute the following:

For shoulder drop-offs in excess of 3 inches, provide a 1V:3H fillet with “*Low Shoulder*” warning signs.

156.06(i) Delete the text and substitute the following:

(i) Limit construction caused delays to public traffic to a maximum of 15 minutes per passage through the project.

156.08. Add the following:

Employ a full-time Traffic Safety Supervisor, exclusively for this project, and designate the person in writing to the CO at the preconstruction conference. The Traffic Safety Supervisor will be on the site at all times when work is being performed and available during non-work hours.

Section 201.—CLEARING AND GRUBBING

201.03. Add the following:

Within the clearing limits on the Fort Belvoir property, do not work outside of limits designated on the plans without additional range clearing from a certified UXO technician.

For prosecution and progress of clearing and grubbing work, refer to subsection 108.01

Section 203.—REMOVAL OF STRUCTURES AND OBSTRUCTIONS

203.04. Add the following to the fifth paragraph:

Remove the existing bunker to a depth of 2 feet below the existing ground. The bunker consists of steel and concrete and is approximately 30 feet by 8 feet.

203.05(a). Delete the first sentence and substitute the following:

Recycle or dispose of material legally off Government property

203.05(b). Delete the Subsection and substitute the following:

(b) Burn. Burning is prohibited. Dispose of material according to Subsection 203.05(a).

203.05(c). Delete the Subsection and substitute the following:

(c) Bury. Burying debris is prohibited. Dispose of material according to Subsection 203.05(a).

Section 204.—EXCAVATION AND EMBANKMENT

204.02(a)(1). Delete the first sentence and add the following:

All material excavated from within the right-of-way or easement areas, including the stormwater management basins, stormwater management access roads, temporary sediment traps, and temporary sediment basins, except subexcavation covered in (2) below and structure excavation covered in Sections 208 and 209.

204.04. Add the following:

For prosecution and progress of this work, refer to subsection 108.01

204.17. Add the following:

A price adjustment will be made for fluctuations in the cost of motor fuel (both diesel and gasoline) consumed in the performance of applicable construction work according to Subsection 109.06 Pricing of Adjustments Fuel Price Adjustment Provision.

Section 301.—UNTREATED AGGREGATE COURSES

301.03. Add the following:

If an alternate State gradation is produced as provided in Subsection 703.05, notify the CO in writing. If the target values with respect to the State gradation are not identified, they will be the midpoint of the allowable State specification band.

301.03. Add the following:

If an alternate State gradation is produced as provided in Subsection 703.05, notify the CO in

writing. The target values with respect to the State gradation will be the midpoint of the allowable State specification band. The allowable deviation (D) will be ½ the State specification band width, and the maximum allowable pay factor under subsection 301.08 will be 1.0.

301.10. Add the following:

A price adjustment will be made for fluctuations in the cost of motor fuel (both diesel and gasoline) consumed in the performance of applicable construction work according to Subsection 109.06 Pricing of Adjustments Fuel Price Adjustment Provision.

Section 551.—DRIVEN PILES

551.08. Add the following:

Drive permanent piles a minimum of 150 calendar days after completion of the approach fills at the following locations:

1. Mulligan Road over Piney Run
2. Pile driving shall not commence at the Piney Run Bridge abutments until the approach embankment settlement has ceased. The project schedule shall include waiting periods of 150 days at Abutment A and 30 days at Abutment B after the embankments are completed to full height and before pile driving at the abutments commences. If survey data indicates that the settlement has ceased prior to the full waiting period, pile driving may commence upon approval of the CO

Drive permanent piles as soon as the embankments are constructed to their full height at the following locations:

- (a) Mulligan Road over Kingman Road

551.11. Delete the first paragraph and substitute the following:

Pile Load Tests. Dynamic load testing is required.

Section 552.—STRUCTURAL CONCRETE

552.01. Add the following:

This work includes the furnishing and installation of Expanded Polystyrene (EPS) and geotextile separation fabric between the back of concrete surfaces and backfill material, in accordance with these specifications and in close conformity with manufacturer's recommendations, the lines shown on the plans or as established by the CO.

This work includes furnishing, fabrication (where necessary) and installation of molded High Load Capacity (HLC) grating with all appurtenances, accessories and incidentals necessary to produce a complete, operable and serviceable installation.

552.02. Add the following:

Expanded Polystyrene (EPS) material	725.30
Molded High Load Capacity (HLC) Grating	725.31

552.03 (g). Add the following:

Use Type I or II portland cement in all concrete.

552.09(b)(4). Add the following:

Provide for compressive strength testing of the concrete cylinders by an independent laboratory, qualified to perform the testing, and as approved by the CO.

552.10(c). Add the following:

When placing bridge deck overlays, limit the expected evaporation rate to 0.8 lb per square yard per hour.

552.11. Add the following:

Installation of EPS Material

- (a) Preparation of Concrete Surface:** Before placement of EPS, concrete surfaces shall be abrasive blast cleaned with a positive contact sandblaster or adhesives manufacturer's recommendation and approved by the Engineer to remove all non-adherent laitance, oil, grease or other foreign or deleterious matter.

(b) Installation of Material:

The EPS shall be attached to the back of the concrete surfaces with an adhesive compatible with the material.

The concrete surface must be thoroughly dry and clean for adhesive for the application of the EPS. Adhesive shall be applied in accordance with the adhesive manufacturer's recommendation or approval.

The separation fabric may be installed after the EPS has been installed or it may be pre-attached to the EPS. The separation fabric shall cover all exposed surfaces of the EPS.

EPS and separation fabric shall be installed in accordance with the manufacturer's

recommendations.

Installation of HLC grating

Install HLC gratings in accordance with manufacturer's assembly drawings. Lock grating panels securely in place with hold-down fasteners as specified herein. Field cut and drill fiberglass reinforced plastic products with carbide or diamond tipped bits and blades. Seal cut or drilled surfaces in accordance with manufacturer's instruction. Follow manufacturer's instructions when cutting or drilling fiberglass products or using resin products; provide adequate ventilation.

552.11(f). Delete the first sentence and substitute the following:

(f) Concrete railings, parapets, and curbs.

552.19. Add the following:

Materials used for concrete repair will be evaluated under Subsection 106.03.

Elasticized EPS shall be tested by an independent commercial laboratory, to verify the material requirements specified herein. Provide written documentation of all tests specified. Document style, lot, roll numbers, and actual results of each test. In addition, provide the name, address, phone number of the testing laboratory, and date of testing.

Geotextile separation fabric shall be tested by an independent commercial laboratory, to verify the material requirements specified herein. The Contractor shall provide written documentation of all tests specified. Documentation shall include style, lot, roll numbers, and actual results of each test. In addition, the name, address, phone number of the testing laboratory, and date of testing shall be provided.

After the EPS has been installed and before the work has been accepted, the Contractor and CO shall perform a visual inspection of EPS coverage and adhesion to the concrete surface. Any area deemed unacceptable and questionable as to remaining in position during the placement of the backfill material shall be replaced or repaired, as required at no cost to the Government.

552.21. Add the following:

Do not measure the expanded polystyrene material, epoxy-resin systems and molded high load capacity grating for payment.

Section 554.—REINFORCING STEEL

554.08. Delete the first sentence of the first paragraph and substitute the following:

Place, fasten, and support the bars according to the *CRSI Manual of Standard Practice*. Use precast concrete blocks or metal supports.

554.09. Add the following:

Mechanical splices, where allowed, may be made using the following coupler devices: “**Bar-Lock MBT**” coupler, the “**OS Splice Clip**” as produced by Splice Sleeve North America, the “**Bar-Grip System**” by AFC Dayton Barsplice, or the “**Quick-Wedge**” as produced by Erico Concrete Construction Products, or an approved alternative. Approval by the CO of an alternate coupler design will be based upon technical data, including test results, and other necessary proof of satisfactory performance submitted by the manufacturer.

The criteria for acceptance of alternate coupler design is as follows: the total slip of the reinforcing bars within the splice sleeve after loading in tension to 30 pounds per square inch and relaxing to 3 pounds per square inch shall not exceed 0.01 inches for reinforcing bars No. 14 or smaller as measured between gage points clear of the splice sleeve. Mechanical couplers used in the superstructure slab must be butt type splices only.

Use only epoxy coated mechanical couplers for joining epoxy coated reinforcing. Splice sleeves shall have a clear coverage of not less than 1.75 inches measured from the surface of the concrete to the outside face of the sleeve. Do not place slab bar mechanical splices adjacent to each other.

All splicing procedures shall be in accordance with the manufacturer’s standard equipment, jigs, clamps, and other required accessories. Use procedures in making mechanical butt splices as recommended by the manufacturer and approved by the CO.

Section 555.—STEEL STRUCTURES

555.21. Delete the second sentence and substitute the following:

The quantity of structural steel will include metal items incidental to the structure and required by the contract such as castings, steel plates, anchor bolts and nuts, pins and nuts, expansion dams, roadway drains and scuppers, weld metal, bolts embedded in concrete, cradles and brackets, posts, conduits and ducts, and structural shapes.

Section 562.—TEMPORARY WORKS

562.02. Delete the second sentence and substitute the following:

Furnish factory fabricated components of vertical shoring towers complying with the *Certification Program for Bridge Temporary Works* (FHWA-RD-93-033).

562.03. Delete the third from the last paragraph and substitute the following:

Do not use deck overhang form brackets for girder bridges that require holes to be cast or drilled into the girder webs.

562.06. Add the following:

Stay-in-place deck forms. The use of metal stay-in-place deck forms is permitted. Fabricate permanent steel bridge deck forms and supports from steel conforming to ASTM A 653 coating designation G165.

When metal stay-in-place forms are used to construct the deck slab, remove 2-foot by 2-foot sections of the metal forms to create inspection ports. Locate the inspection ports in accordance with the following or as directed by the CO:

- (a) Locate inspection ports transversely as close to the exterior beam as practical on the low side of the superelevation or on each side of a crown;
- (b) Locate inspection ports longitudinally near each abutment, near each pier, and near the middle of each span.

562.07. Delete this Subsection and substitute the following:

562.07 Maintenance and Inspection. Inspect and maintain temporary works in an acceptable condition throughout the period of use.

In the presence of the CO, perform an in-depth inspection of temporary works not more than 24 hours before beginning each concrete placement or before allowing people to enter a cofferdam or excavation support structure. Inspect other temporary works at least once a month to ensure they are functioning properly. Use a registered professional engineer to inspect cofferdams, shoring, support of excavation structures, and support systems for load tests before loading.

Furnish written results of the inspections to the CO before placing concrete, allowing people to enter a cofferdam or excavation support structure, or loading temporary works. Include a certification that the system meets the requirements of the contract and drawings.

Clearly mark the capacity of factory fabricated components of vertical shoring towers according to the *Certification Program for Bridge Temporary Works* (FHWA-RD-93-033). Make inspections and certifications for factory fabricated components of vertical shoring towers according to the *Certification Program for Bridge Temporary Works* (FHWA-RD-93-033).

Section 563. – PAINTING

563.03. Add the following:

SSPC Painting Contractor Certification Program (PCCP) Requirements. All contractors and subcontractors that perform surface preparation, paint application, and any related work involving containment and collection of surface preparation debris, disposal of surface preparation debris, and a worker health protection program (including decontamination facilities) shall be certified by the Society for Protective Coatings (formerly Steel Structures Painting

Council (SSPC)) to the requirements of SSPC-QP 1. In addition, all contractors and subcontractors engaged in lead paint removal and any other related work shall be certified by the SSPC to the requirements of SSPC-QP 2. Contractors and subcontractors shall be certified at time of bid, must remain certified for the respective work for the duration of the project and submit documentation of certification at time of bid. If a contractor's certification expires, the company will not be allowed to perform any work until the certification is reissued. Requests for extension of time for any delay to the completion of the project due to inactive certification will not be considered and liquidated damages will apply. Notify the CO of any change in contractor certification status.

563.07 (a).(1). Add the following:

Clean uncoated ASTM A709, Grade 50W weathering steel in accordance with the requirements of subsection 2 or clean with a power-tool by removing coating, rust and mill scale to bare metal in accordance with the requirements of SSPC-SP-11 and coat with a zinc-rich primer conforming to paint system 1 or 2 from Table 563-1. If an inorganic zinc primer is used, prepare surface in accordance with subsection 2. Coat the following areas of weathering steel as indicated below:

1. All areas within 5 feet of a deck joint, including, but not limited to cross frames, diaphragms, stiffeners, connector plates, girders and beams.
2. The entire outside surface of fascia girders and beams, including the underside of the bottom flange.

Clean these areas thoroughly to no less than 6 inches outside the area to be coated, and coat with a zinc-rich primer conforming to paint system 1 or 2 from Table 563-1.

Add the following new Section after Section 566:

Section 571. — HIGH PERFORMANCE CONCRETE

Description

571.01 This work consists of furnishing, placing, finishing, and curing high performance concrete (HPC) in bridge decks, approach slabs and other structural elements.

Material

571.02 Conform to the following Subsections:

Air-entraining admixture	711.02
Chemical admixtures	711.03
Coarse aggregate	703.02
Color coating	725.24
Curing material	711.01
Elastomeric bearing pads	717.10

Elastomeric compression joint seals	717.16
Fiber reinforcement	711.05
Fine aggregate	703.01
Fly ash	725.04
Ground iron blast-furnace slag	725.04
Hydraulic cement	701.01
Joint fillers and sealants	712.01
Linseed oil	725.14
Masonry cement	701.02
Silica fume (microsilica)	725.04
Water	725.01

571.02 Qualifications. The Contractor or subcontractor performing the high performance concrete work shall have completed at least 2 high performance concrete projects within the last 3 years. Submit a brief description of each project including the owning agency's name and current telephone number.

Provide an on-site supervisor with at least 1 year experience constructing high performance concrete. At least 30 days before starting the high performance concrete work, identify the on-site supervisor assigned to the project and submit a summary of the individual's experience.

571.03 Definitions.

(a) High Performance Concrete (HPC). Concrete that meets specified performance characteristics in addition to standard structural concrete properties. The class of concrete is designated as HPC.

(b) HPC performance characteristics. Specified concrete properties in addition to standard structural concrete properties of freeze thaw durability, compressive strength, slump and plastic air content. HPC performance characteristics consist of the following:

(1) Maximum Chloride Permeability. Measured value, of total charge passed, in coulombs, over a specified period of time, determined according to AASHTO T 277 with the following provisions: Sample specimens at the point of discharge. Cure chloride permeability specimens for seven days according to AASHTO M 201. Then cure at 100 °F ± 10 °F in saturated lime water until AASHTO T 277 sample conditioning. Test for chloride permeability at 28 days. The value will be the result of the average of tests on three specimens. If pigment is used in the concrete mixture, sample concrete at the batch plant before and after adding pigment. Test a minimum of three specimens with and without pigment. Determine the average difference between the pigmented and nonpigmented test results. Adjust production test result by the average difference. Report both initial and adjusted test results.

(2) Drying Shrinkage. Measured value, of percent drying shrinkage, in microstrains, determined according to ASTM C 157 with the following provisions: Use 3-inch x 3-inch x 11-inch prisms for drying shrinkage specimens. Moist Cure drying shrinkage specimens the duration of the specified moist curing period for HPC elements. The zero

measurement for percent drying shrinkage is the initial measurement taken at demolding of the specimens at $23 \frac{1}{2} \pm \frac{1}{2}$ hours after introduction of mixing water to the concrete mixture. Measure percent drying shrinkage at the end of specified moist curing period for the structural elements, 1 day, 4 days, 7 days, 14 days, 28 days, and 56 days after the end of the specified field moist curing period. Drying shrinkage 28 days after the termination of moist curing (28 days drying) cannot exceed 60 percent of the maximum specified value.

571.04 Composition (Concrete Mix Design). For Class HPC concrete produce a concrete mixture with a maximum Water/Cementitious (W/C) ratio of **0.45**, a nominal maximum aggregate size of **3/4** inches, and a total cementitious content within the range of 564 to 846 pounds per cubic yard. Use only type I or II Portland cement. Include the water contained in the aggregates above the amount of absorbed water in the calculation of the W/C ratio. Shrinkage reducing admixtures may be used to reduce drying shrinkage of HPC. Confirm compatibility with air entraining admixtures. Do not use gravel or ASR reactive aggregates. The total cementitious content includes Portland cement and any pozzalons added to the concrete mixture, such as, ground granulated blast furnace slag, fly ash, silica fume, metakaolin, and rice hull (husk). Determine design strength values according to ACI 318. Structural concrete shall also conform to the following ACI specifications:

- ACI 211.1 Standard Practice for Selecting Proportions for Normal, Heavy Weight and Mass Concrete;
- ACI 211.2 Standard Practice for Selecting Proportions for Structural Light Weight Concrete;

Class HPC concrete shall also conform to the following:

- (a) **Plastic Properties.** Conform to Table 571-1. Slump can be adjusted using a high range water reducer (superplasticizer) as long as the maximum W/C ratio is not exceeded. If the plastic air content is low when the concrete arrives on-site, additional air entraining agent may be added to the concrete and mixed provided that 300 revolutions of the mixer has not been exceeded.

**Table 571-1
Plastic Properties of HPC Concrete**

Property	Specification
Slump, AASHTO T 119	2 to 8 inches
Air Content, AASHTO T 152 or AASHTO T 196	5.0 to 8.0 %

- (b) **HPC Performance Characteristics.** Conform to Table 571-2.

Table 571-2
Performance Characteristics of HPC Concrete

Performance Characteristic	Specification
Chloride Permeability, AASHTO T 277	1,200 coulombs maximum
Drying Shrinkage, ASTM C 157 ⁽¹⁾	500 microstrains maximum
Compressive Strength, AASHTO T 22	4,000 psi minimum

(1) Drying Shrinkage testing is not required if the concrete mixture contains 1.5 gallons per cubic yard of an approved Shrinkage Reducing Admixture (SRA).

Submit concrete mix designs on FHWA Form 1608.

Verify mixture design with trial mixes prepared according to ACI 318 from proposed source(s) or with previous concrete production data for the mixture design submitted from proposed source(s). Verify HPC performance characteristics that are specified in Table 571-2. Submit written concrete mix designs for approval at least 36 days before production. Each mix design submittal shall include the requirements of 552.03(a) through (x).

571.05 Strength-Maturity Relationship. Develop a strength-maturity relationship of the approved concrete mixture according to AASHTO T 325. Submit strength-maturity relationship for approval at least 14 day prior to production. Note that the developed strength-maturity relationship is dependent upon mix constituents. The use of a hydration stabilizer in the concrete mixture will have a significant effect on the strength-maturity relationship since it will effect when initial and final set occurs. The dosage of the hydration stabilizer needs to reflect anticipated field conditions. If the actual dosage used during placement changes drastically from what was used to develop the strength-maturity relationship, a new strength-maturity relationship will need to be developed.

Provide a concrete maturity meter during the test placement and production. Provide a concrete maturity meter that conforms to AASHTO T 325 and is rugged, waterproof, and can withstand the construction environment, able to operate without an external power source for a minimum of 14 days, able to collect and store temperature and maturity data for a minimum of 14 days, and is able to determine equivalent maturity hours according to the Arrhenius function.

571.06 Test Placement. Fabricate a 9 ft x 9 ft test panel using the approved concrete mixture. Construct the test panel using the same methods of handling, placing, finishing and curing as intended for the actual placement. Monitor concrete maturity Sample for specified properties listed in Table 571-3.

Demonstrate the maturity meter operation during the test placement. Install maturity meter

probes according to AASHTO T325. Measure the concrete temperature and calculate the in-place maturity. Using the strength-maturity relationship developed for the approved concrete mixture determine the in-place concrete compressive strength of the HPC Overlay. Verify that the test placement concrete has a similar time temperature relationship as the submitted concrete mixture.

Monitor the maximum temperature differential from the center of the concrete mass to the surface of the concrete. Provide means of internal cooling, external heating, or insulation to insure the temperature differential does not exceed 35°F during the test placement, curing, and immediately after form stripping or curing ends. Demonstrate methods chosen to keep maximum temperature differential less than 35°F

Furnish a new mix design for approval if there is a change in a source of material or when the fineness modulus of the fine aggregate changes by more than 0.20.

Test methods to clean any staining or efflorescence after curing of test panels if directed by the CO to provide a uniform color to the concrete surface.

Begin production only after the test placement has been evaluated and accepted.

571.04 Storage and Handling of Material. See subsection 552.04.

571.05 Measuring Material. See subsection 552.05.

571.06 Batching Plant, Mixers, and Agitators. See subsection 552.06.

For HPC concrete, furnish ready-mixed concrete produced and delivered in conformance with AASHTO M 157. Regulate the delivery of the concrete to the site so that the placing and finishing operations can proceed at a uniform rate.

571.07 Mixing. See subsection 552.07.

(a) Central-mix plant. See subsection 552.07(a).

Remove the contents of an individual mixer before a succeeding batch is charged into the drum.

(b) Truck mixer. See subsection 552.07(b).

Mix each batch of concrete according to AASHTO M 157. Add fibers to concrete mixture following manufacturer's recommendations. Mix until uniformly distributed in the concrete mixture.

571.08 Delivery. See subsection 552.08, except nonagitating equipment will not be allowed.

Do not add additional water to concrete mixture if workability is reduced after the addition of synthetic fibers. Increased addition of a Water Reducing Admixture meeting AASHTO M 194 or the use of a High Range Water Reducing Admixture is acceptable provided if directed by CO.

571.09 Quality Control of Mix. See subsection 552.09.

(a) **Mixing.** See subsection 552.09(a).

(b) **Delivery and sampling during actual placement.** See subsection 552.09(b), except make at least 14, 4-in by 8-in compressive strength test cylinders. Ten of the cylinders will be used for 1, 3, 7, 14 and 28-day compressive strength tests. Make at least 3, 4-in by 8-in cylinders for maximum chloride permeability testing at 28 days. Make at least 3 prisms for drying shrinkage testing.

Provide for compressive strength testing, Chloride Permeability, drying shrinkage testing, by an independent laboratory, qualified to perform the testing, and as approved by the CO.

571.10 Temperature and Weather Conditions. Maintain the temperature of the HPC concrete mixture just before placement between 45 and 80 °F. Monitor concrete temperatures according to AASHTO T 325. Monitor the maximum temperature differential from the center of the concrete mass to the surface of the concrete during placement. Provide means of internal cooling, external heating, or insulation to insure the temperature differential does not exceed 35 °F during placement, curing and immediately after form stripping or curing ends.

Using the strength-maturity relationship developed for the approved concrete mixture determine in-place concrete compressive strength of structural elements. Measure concrete temperature and calculate in-place maturity.

(a) **Cold weather.** See subsection 552.10(a), except during cold weather, protect all concrete until concrete maturity data indicates that the minimum compressive strength has been achieved.

Do not remove curing materials and insulation until the minimum compressive strength has been achieved and the moist curing period is complete. During the cooling period do not allow the maximum temperature differential from the interior of the concrete to the surface to exceed 35 °F and do not allow the concrete surface temperature to exceed the values shown in Table 552-5. To prevent rapid convective heat loss from the surface, do not start the cooling period if the average wind speed exceeds 10 mph as measured 3 feet from the concrete surface.

Place HPC concrete for bridge decks, approach slabs, and other flatwork only when the ambient air temperature is 45°F and rising. Place all other HPC Concrete only when the ambient air temperature is 35°F and rising.

(b) **Hot weather.** See subsection 552.10(b).

Do not remove curing materials until the minimum compressive strength has been achieved

and the moist curing period is complete. During the cooling period do not allow the maximum allowable temperature differential from the interior of the concrete to the surface to exceed 35 °F and do not allow the concrete surface temperature to exceed the values shown in Table 552-5. To prevent rapid evaporative cooling from the moist concrete surface, do not start the cooling period if the calculated evaporation rate exceeds 0.15 pound per square foot per hour as determined by Figure 552-1.

Place HPC concrete only when the ambient air temperature is less than 85°F

- (c) **Evaporation.** During placement and finishing of HPC concrete with exposed surfaces take care to prevent plastic shrinkage cracking by monitoring and maintaining the expected evaporation rate within acceptable limits. Fog all freshly placed HPC concrete with exposed surfaces. Identify personnel assigned to operate the fogging equipment during the concrete placement and install and demonstrate fogging equipment for approval prior to placing HPC concrete. Use pressure sprayers or atomizers to maintain a moist surface. Do not apply moisture under pressure directly to the concrete surface and do not allow water to accumulate sufficiently enough to cause a flow or wash on the concrete surface. Continue fogging the concrete surface until all finishing operations are complete and the surface has been covered. Do not wait until final set to cover the concrete surface.
- (d) Monitor relative humidity, air temperature, and wind speed at the project site. Measure wind speed two feet above the concrete surface using an anemometer with $\pm 4\%$ full scale accuracy. Measure percent relative humidity two feet above the concrete surface using a psychrometer or hygrometer with $\pm 2\%$ full scale accuracy. Use windbreaks and other protective measures, as necessary, in addition to fogging to limit the expected evaporation rate to less than 0.1 pound per square foot per hour as determined by Figure 552-1. However, do not place HPC concrete if the expected evaporation rate, determined without fogging and other protective measures, is greater than 0.15 pound per square foot per hour as determined by Figure 552-1.

When finishing operations are complete, cover exposed surfaces with selected water curing systems of wet burlap/polyethylene sheeting, cotton mats/polyethylene sheeting, or wet burlene sheeting.

(d) **Rain.** See subsection 552.10(d).

571.11 Handling and Placing Concrete. See subsection 552.11.

(a) **General.** Place concrete continuously without interruption between planned construction or expansion joints. The delivery rate, placing sequence, and methods shall be such that fresh concrete is always placed and consolidated against previously placed concrete before initial set has occurred in the previously placed concrete. Do not allow the time between the placement of successive batches to exceed 30 minutes.

Prior to placement of HPC concrete, thoroughly clean forms of any debris and wet forms. Clean reinforcing steel of all loose material, dirt, scale, prior to concrete placement.

(b) Sequence of placement. See subsection 552.11(b)

(c) Placing methods. See subsection 552.11(c).

(d) Consolidation. Refer to 552.11(d). Spud vibrate the concrete at edges and adjacent to expansion joints.

571.12 Construction Joints. Refer to 552.12.

571.13 Expansion and Contraction Joints.

(a) Open joints. Refer to 552.13(a).

(b) Filled joints. Refer to 552.13(b).

(c) Steel joints. Refer to 552.13(c).

(d) Compression joint seals. Refer to 552.13(d).

(e) Elastomeric expansion joint seal. Refer to 552.13(e).

571.14 Finishing Plastic Concrete. See subsection 552.14.

For bridge decks, top slabs of structures serving as finished pavement, or deck overlays, use a self-propelled rotating cylinder machine, either single or double roller that is capable of forward or reverse movement under positive control. The machine shall be equipped with an oscillating screed and any other devices required continuously spreading, consolidating, and finishing the plastic concrete. The screed shall extend the full width of the deck.

(a) Striking off and floating. Refer to 552.14(a).

(b) Straightedging. Refer to 552.14(b).

(c) Texturing. Produce a skid-resistant surface texture on all driving surfaces by grooving. Do not groove until curing has been completed. Mechanically saw-cut the grooves perpendicular to the centerline of the bridge. Do not use hand-held saws to cut the grooves. Grooves are to be 1/8-inch (nominal) wide by 3/16-inch deep. Space grooves with a three quarter inch center to center spacing. Do not groove overlay within 18 inches of the curbs or within 3 inches of expansion joints. Continuously remove all slurry or other residue from the overlay by vacuum pickup or other approved methods. Remove all residue from the finished surface. Properly dispose of slurry and other residue off site.

Clean any staining or efflorescence after curing if directed by the CO to provide a uniform color to the concrete surface.

571.15 Concrete Curing. Immediately after screeding and until the application of moist curing

do not allow the surface of the freshly placed concrete to dry. Use extra care to prevent plastic shrinkage cracking and crusting of the surface prior to the end of finishing operations. Immediately after finishing, cover the overlay concrete with wet burlap and polyethylene sheeting, cotton mats and polyethylene sheeting or wet burlap sheeting. Do not wait until final set to cover the overlay concrete. Within four hours after the concrete has achieved final set, apply soaker hoses, or other approved methods of keeping the coverings saturated.

Install maturity meter probes according to AASHTO T 325. Monitor the maximum temperature differential from the center of the concrete mass to the surface of the concrete. Using the strength-maturity relationship developed for the approved concrete mixture determine the in-place concrete compressive strength of the overlay concrete.

Wet cure the HPC Bridge Deck, approach slabs, sidewalks, and other flatwork for a minimum of 14 days. Keep the concrete saturated and covered for the entire curing period. During wet curing, maintain the concrete temperature above 45 °F at the outer most surfaces of the concrete mass. Provide a means of internal cooling, external heating, or insulation to ensure that the temperature differential does not exceed 35 °F during wet curing and just prior to removing the curing system. Opaque and transparent sheeting may be used when the air temperature falls below 40 °F. Do not remove the wet curing system until the in-place concrete compressive strength of the concrete has reached a minimum of 80 percent of the minimum compressive strength specified in Table 571-2 at all measured locations.

Cure HPC structural elements a minimum of 10 days. In addition, do not remove the curing system until the in-place concrete compressive strength of the concrete has reached a minimum of 80 percent of the minimum compressive strength specified in Table 571-2 at all measured locations as measured according to the Maturity Method. Use a combination of forms in place curing and water method for curing. If forms are stripped or loosened to provide a Class 2 Rubbed Finish to the concrete surface prior to the end of the curing period, complete the remainder of the curing by the water method per 552.15 (b). Provide a means of internal cooling, external heating, or insulation to ensure that the temperature differential does not exceed 35 °F during curing and just prior to removing the curing system.

571.16 Acceptance. See Table 571-3 for sampling and testing requirements and the acceptance quality characteristic category.

Material for HPC concrete will be evaluated under Subsections 106.02 and 106.03. Furnish a production certification for the hydraulic cement.

The concrete mixture's slump, air content, unit mass, and temperature will be evaluated under Subsections 106.02 and 106.04.

Concrete compressive strength will be evaluated under Subsection 106.05. The lower specification limit is the minimum required compressive strength (f_c') at 28 days as specified in Table 571-2. A single compressive strength test result is the average result from 2 cylinders cast from the same load and tested at 28 days.

Remove and replace concrete represented by cylinders having a compressive strength less than 90 percent of the minimum 28 days compressive strength (f_c').

Maximum chloride permeability will be evaluated under Subsection 106.05. The upper specification limit is the maximum specified chloride permeability value as specified in Table 571-2. A single chloride permeability test result is the average result from 2 samples cast from the same load and tested.

Drying shrinkage will be evaluated under Subsection 106.04. The upper specification limit is the maximum specified drying shrinkage value as specified in Table 571-2. If the concrete mixture contains 1.5 gallons per cubic yard of an approved Shrinkage Reducing Admixture (SRA), drying shrinkage testing is not required and drying shrinkage will be evaluated under Subsection 106.03.

Measurement

571.17 Measure the HPC items under Section 552 according to Subsection 109.02 and the following as applicable.

Payment

571.18 The accepted quantities will be paid at the contract price per unit of measurement for the HPC pay items listed in the bid schedule except the HPC concrete unit bid price will be adjusted according to Subsection 106.05. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Payment for HPC concrete items will be made at a price determined by multiplying the unit bid price by the concrete pay factor.

**Table 571-3
Sampling and Testing Requirements**

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods or Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Aggregate source quality (703.02)	Measured and tested for conformance (106.04)	Quality	---	AASHTO M 80 & M 6	1 per material type	Source of material	Yes	Before producing
Concrete composition (mix design)	Measured and tested for conformance (106.04)	All	---	Subsection 572.03	1 per mix design	Source of material	Yes	Before producing
Produced aggregate (fine & coarse)	Measured and tested for conformance (106.04)	Gradation	---	AASHTO T 27 & T 11	1 per day	Flowing aggregate stream (bin, belt, discharge conveyor belt, or stockpile)	Yes, when requested	Before batching
		Fineness modulus	---	AASHTO T 27	---	“	“	“
		Moisture test	---	AASHTO T 255	---	“	“	“

**Table 571-3 (continued)
Sampling and Testing Requirements**

HPC (test placement)	Measured and tested for conformance (106.04) ⁽¹⁾	Maximum ⁽²⁾ chloride permeability		AASHTO T 277	1 set per test placement	Discharge stream at point of placement	Yes, when requested	Upon completing tests
		Compressive strength ⁽³⁾		AASHTO T 23 & 22	“	“	“	“
		Drying ^{(4),(5)} shrinkage		ASTM C 157	“	“	“	“
								“
HPC (all)	Measured and tested for conformance (106.04)	Unit mass	---	AASHTO T 121	1 per load	Point of discharge	---	Upon completing tests
		Air content	---	AASHTO T 152 or AASHTO T 196	“	“	---	“
		Slump ⁽⁶⁾	---	AASHTO T 119	“	“	---	“
		Temperature	---	Field measured	“	“	---	“

Table 571-3 (continued)

Sampling and Testing Requirements

HPC (production)	Statistical (106.05)	Maximum chloride permeability ⁽⁷⁾	II	AASHTO T 277	1 set per 30 yd ³ but not less than 1 per day	Discharge stream at point of placement	Yes, when requested	Upon completing tests
		Compressive strength ^{(3), (8)}	II	AASHTO T 23 & T 22	“	“	“	“

- (1) Sample according to AASHTO T 141 except composite samples are not required.
- (2) When pigment is used in the mixture, sample an additional set of cylinders at the batch plant before and after adding pigment. Cast a minimum of 3 cylinders with and without pigment.
- (3) Cast at least 14, 4-in by 8-in compressive strength cylinders per set and carefully transport the cylinders to the job site curing facility. A single compressive strength test result is the average result from 2 cylinders cast from the same load.
- (4) Drying shrinkage testing is not required if the concrete mixture contains 1.5 gallons per cubic yard of an approved Shrinkage Reducing Admixture (SRA).
- (5) Cast at least 3 drying shrinkage prisms per set and carefully transport the prisms to the job site curing facility. A drying shrinkage test result is the average result from 3 prisms cast from the same load.
- (6) If fibers are used at an addition rate greater than 0.3% by volume, measure slump at the batch plant prior to the addition of fibers.
- (7) Cast at least 3, 4-in by 8-in maximum chloride permeability cylinders per set and carefully transport the cylinders to the job site curing facility. A single maximum chloride permeability test result is the average result from 3 cylinders cast from the same load.
- (8) Deliver cylinders to designated laboratory for testing.

Section 601.—MINOR CONCRETE STRUCTURES

601.03. Delete the first sentence and substitute the following:

Conform to Table 601-1 or furnish a concrete mix used locally by either a Federal or State agency for the construction of minor concrete structures, that also meets the minimum 28-day compressive strength requirement of Table 601-1.

Section 602.—CULVERTS AND DRAINS

602.03. Add the following:

Furnish culvert pipe from the following groups:

- Plastic pipe
- Reinforced concrete pipe, Class *III*

602.03. Add the following:

Construct either cast-in-place or precast concrete box culverts. Construct cast-in-place box culverts according to Section 552. Submit design drawings and details with supporting calculations for precast concrete box culverts to the CO according to Subsection 104.03.

602.03. Add the following:

Verify the vertical depth of the 24-inch waterline at the proposed 38-inch x 24-inch elliptical pipe crossing at 149+90 by performing a test hole prior to pipe installation. Contact Fairfax Water (Bill Johnston, Supervisor Engineering Inspection, 703-289-6350) at least 14 calendar days prior to digging the test hole.

602.09. Add the following:

Measure the wildlife crossing by the linear foot. Measurement includes the wingwalls, footings, backfill and any additional items necessary for a complete installation.

Section 612.—SANITARY SEWER SYSTEMS

612.03. Add the following after the third paragraph:

Provide Fairfax County Department of Public Works with a minimum of 14 calendar days notice prior to beginning any work on the sanitary sewer system. See Section 107 for contact information.

Section 619.—FENCES, GATES, AND CATTLE GUARDS

619.02. Add the following:

Provide chain link fence for the installation of replacement fence near the Piney Run Bridge Site in accordance with the requirements of Humphreys Engineer Center, Fort Belvoir, and the details as shown in the Plans.

Section 624.—TOPSOIL

624.04. Add the following after the second paragraph:

Where topsoil will be placed on slopes on which the character of the subsoil will not blend with the topsoil, work the topsoil into the subsoil to eliminate any slip-plane between the 2 materials and leave a sufficient cover of topsoil to ensure germination of the seed.

Section 625.—TURF ESTABLISHMENT

625.01. Add the following:

The work does not include areas previously protected by soil erosion control measures according to Section 157, and upon which permanent suitable vegetation has started growth.

625.06. Add the following:

Apply limestone and fertilizer at the following rates:

<u>Item</u>	<u>Rate (pounds per acre)</u>
Agricultural Limestone (85 percent CaCO ₃)	704
Fertilizer	3094

625.07. Add the following:

Apply seed at the rates for each season as follows:

SPRING April 01 thru May 31		SUMMER June 01 thru September 15		FALL & WINTER September 16 thru March 31	
<u>SLOPES</u>	<u>MOWED</u>	<u>SLOPES</u>	<u>MOWED</u>	<u>SLOPES</u>	<u>MOWED</u>
Seed Mix with Additives	Seed Mix with Additives	Seed Mix with Additives	Seed Mix with Additives	Seed Mix with Additives	Seed Mix with Additives
<u>Core Mix:</u> 2 lbs./ac Ladino (white) Clover 100 lbs./ac Hard Fescue	<u>Core Mix:</u> 2 lbs./ac Ladino (white) Clover 100 lbs./ac Hard Fescue	<u>Core Mix:</u> 132 lbs./ac Buffalo Grass (Turf Varieties)	<u>Core Mix:</u> 132 lbs./ac Buffalo Grass (Turf Varieties)	<u>Core Mix:</u> 2 lbs./ac Ladino (white) Clover 100 lbs./ac Hard Fescue	<u>Core Mix:</u> 2 lbs./ac Ladino (white) Clover 100 lbs./ac Hard Fescue
<u>Additives:</u> 20 lbs./ac 100% Barley, Cereal Rye, or Winter Wheat 10 lbs./ac 100% Birdsfoot Trefoil (Legume)	<u>Additives:</u> 20 lbs./ac 100% Barley, Cereal Rye, or Winter Wheat	<u>Additives:</u> 8 lbs./ac 100% Foxtail Millet 10 lbs./ac 100% Birdsfoot Trefoil (Legume)	<u>Additives:</u> 8 lbs./ac 100% Foxtail Millet	<u>Additives:</u> 20 lbs./ac 100% Barley, Cereal Rye, or Winter Wheat	<u>Additives:</u> 20 lbs./ac 100% Barley, Cereal Rye, or Winter Wheat

625.08. Add the following:

Use straw mulch.

625.08. Add the following:

Apply mulch at the following rates:

<u>Mulch</u>	<u>Rate (pounds per acre)</u>
Straw	4992 (1 to 2 inch mat)

625.09. Delete the last sentence and substitute the following:

Apply supplemental fertilizer at a rate of 401 pounds per acre. Apply supplemental seed at the same rate as the initial seeding. Apply supplemental mulch at the same rate as the initial mulching and hold in place with a stabilizing emulsion tackifier.

Section 635.—TEMPORARY TRAFFIC CONTROL

635.02. Delete the Construction sign panels Section reference and substitute the following:

Construction sign panels	633.02
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635.03. Add the following:

For all signs and other devices requiring orange color, use fluorescent red-orange or fluorescent

yellow-orange color.

635.03(i). Add the following:

Submit a certification that the devices have been successfully crash tested to meet the requirements of NCHRP 350 and/or have been accepted by the FHWA.

635.07. Delete the last sentence of the first paragraph and substitute the following:

Remove or completely cover all unnecessary signs, or signs that conflict with the construction signing or Traffic Control Plan. Cover signs that are not removed so that no part of the covered sign is visible to traffic. Provide sign covers for temporary signs meeting the following requirements:

- a) Large enough to completely cover the sign.
- b) Easy to attach to and remove from the sign without damaging the sign face. Do not use adhesives, glues, tapes, or mechanical fasteners that mar the sign face.
- c) Black, non-reflective, and opaque.
- d) Made of plywood (minimum of 3/8-inches thick), aluminum (minimum of 0.040 inches thick), or sheet metal of a sufficient thickness that the covering will not be lifted, bent or damaged by wind.
- e) Durable enough to resist deterioration due to weathering and atmospheric conditions for the duration of the project.

635.11. Add the following after the second sentence of the first paragraph:

Use temporary barriers that meet test level *TL-2* criteria, per NCHRP Report 350 for crashworthiness standards.

635.11. Delete the second paragraph and substitute the following:

Mount flexible plastic 6-inch by 6-inch delineators with Type III or IV retroreflective sheeting to the top of concrete barriers on 25-foot centers. Furnish white sheeting when the delineator is to the right of traffic and yellow when to the left.

635.19. Delete the first sentence of the first paragraph and substitute the following:

Install an FHWA-approved temporary crash cushion conforming to test level *TL-2* criteria, per NCHRP Report 350 for crashworthiness standards.

Section 637.—FACILITIES AND SERVICES

637.02. Add the following:

Locate the Government field office at a location as directed by the CO near the Pole Road/Mulligan Road intersection, where high-speed internet access, as described in Subsection 637.03(a)(7), is available. For urban projects locate the field office within 5 miles of the project site and within 15 miles of the project site for rural projects. In remote locations where high-

speed Internet service is not available, the field office distance range may be extended or waived by the CO. All field office locations are subject to approval by the CO.

637.03. Delete the third and fourth sentences of the first paragraph and substitute the following:

Provide local and long distance telephone services. The Government will be responsible for the cost of long distance calls made by Government employees for Government business and charged against this phone service. Bill the Government separately for these charges.

637.03(a). Add the following:

Divide the field office into 3 areas by permanent walls with hinged doors. If window air conditioning is provided, provide a separate unit for each room.

Clean the field office weekly to the approval of the CO.

Supply the following equipment in the field office:

(1) Copy machine. One self-feeding plain paper photo copying machine with the following minimum capabilities:

- (a) Automatic document feeder capable of making at least 8 copies per minute;
- (b) Reproducing copies at standard sizes up to and including 11 x 17 inches; and
- (c) Reducing 11 x 17 inches plan sheets to 8 ½ x 14 inches legal size and to 8 ½ x 11 inches letter size.

Furnish all necessary supplies, except paper. Paper will be supplied by the Government.

(2) Printer. One plain paper printing machine with printing capabilities of standard sizes up to and including 11 x 17 inches. The printer must be capable of printing from direct personal computer (PC) and local area network (LAN) hookups. The printer may be one machine in combination with the copy machine. Furnish all necessary supplies, except paper. Paper will be supplied by the Government.

(3) Facsimile (FAX) machine. One FAX machine with the following minimum capabilities:

- (a) Automatic document feeder with a minimum capacity of 20 pages;
- (b) Sending standard size documents up to and including 11 x 17 inches;
- (c) Printing on plain paper; and
- (d) Automatic dial/redial.

The FAX machine may be one machine in combination with the copy machine. Furnish all necessary supplies, except paper. Paper will be supplied by the Government.

(4) Telephone. Two dual line telephones (touch tone, hold button, intercom, and conference calling capabilities) with 2 separate lines, for the exclusive use of the CO.

(5) Answering machine. One digital answering device capable of answering, recording, storing, and playing back messages at least 30 minutes in length.

(6) Cellular telephone. Provide 3 durable, hand held digital/cellular wireless telephone(s), manufactured by Motorola/Nextel, or approved equal, for the use of the CO. Furnish cellular telephone(s) that are similar or compatible with the Contractor's key field personnel (Project Superintendent, and Traffic Control Supervisor) to enable the direct communication between the CO and the Contractor's key field personnel. Furnish each cellular telephone(s) with the following minimum capabilities:

(a) Direct Connect feature, or equivalent, to communicate onsite with Contractor's key field personnel;

(b) Voicemail capable of answering, recording, storing, and playing back messages at least 30 minutes in length;

(c) Hands free device that can be used safely and effectively while driving, and is acceptable by the local law enforcement agencies;

(d) Customized communication configuration, independent of the other units, so that the CO may limit any features if necessary;

(e) Carrying case that can be worn on the belt and is appropriate for use on construction projects; and

(f) Other necessary cellular telephone accessories including a cigarette lighter power adapter/charger.

The cellular telephone plan shall provide the necessary amount of monthly Direct Connect airtime and monthly Digital/Cellular airtime for use on the project. Ensure that each unit has unlimited Direct Connect capabilities and each unit is equipped with a minimum of 600 minutes per month of local and long distance airtime for official business only.

(7) High-speed Internet access. Provide, install, and maintain high-speed Internet access service having at least 768kbps download and 256kbps upload speed. The high-speed Internet access service can be provided via DSL, FIOS, a dedicated T1 line, or cable. Alternate Internet access service options may be submitted to the CO for approval. The system must include a modem and a router with a firewall or a router and a firewall appliance. The system must have the capability to support simultaneous Internet access of at least 3 workstations connected by Category 6 RJ45 LAN office drop cables. If the router supports wireless Internet access, this feature must be disabled. Wireless Internet access does not meet U.S. DOT security requirements and is not acceptable. The firewall configuration must be submitted to the CO for approval and cannot be changed after it is approved, unless a change request is submitted and approved in advance. Only U.S. DOT equipment is to be connected to the system.

If any equipment supplied becomes defective, is stolen, or for any other reason does not function as intended, replace the equipment with an equal or better unit at no additional cost to the Government. Replace any defective equipment within eight hours after being notified by the CO.

The Contractor will retain ownership of all equipment supplied by the Contractor. The CO will notify the Contractor when the equipment is no longer needed and request its removal.

Section 645.—LOCATING UTILITIES

Description

645.01 This work consists of locating and marking existing utilities by excavating test pits to, or using electromagnetic devices, where a physical conflict with proposed construction is suspected and the location is ordered by the CO.

Material

645.02 Materials for restoring the test pit area to its original condition shall be replacement of the materials excavated or their equivalent in newly furnished materials meeting the various applicable sections of this specification.

Construction Requirements

645.03 General. Notify Miss Utility 48 hours prior to any excavation, at 1-800-552-7001 to have the utilities marked in the field. Notify the CO 48 hours prior to any excavation.

Exercise special care and extreme caution in order to protect and avoid damage to any utility company facilities. Existing utilities have been generally located and shown on the plans as they are believed to exist. The Government assumes no responsibility for the accuracy of locations shown on the plans. Locate and ensure the safety of all existing utilities. Repair any damage resulting from Contractor's operations at no additional expense to the Government.

Locate by test pit any utility that may be in conflict with the proposed work. If a conflict appears to exist, then notify the CO in writing immediately and provide information on the location and elevation of the utility so that the CO can adjust the proposed work.

645.04 Locating Utility. Use electromagnetic devices to establish alignment of utilities where applicable. When necessary, thread a metal rod through non-metallic utility pipes to locate them. Where neither method is feasible, locate the utility by perpendicular trench or test pits.

645.05 Excavation. Excavate carefully so as not to disturb utility at its assumed depth. When excavating within roadway pavements where traffic is being maintained, excavate by air-vacuum methods or equivalent, keeping the area of disturbance to a minimum. Uncover the utility sufficiently to make accurate measurements.

645.06 Record. Describe the utility found (size, material, function), determine the elevation of

the top of utility, and prepare a field sketch of the pit. Indicate the date and the station and offset of the utility, noting whether the baseline or the centerline of proposed facility is being referenced. Submit 1 copy to the CO within 24 hours.

645.07 Marking. Mark the utility location by flags or paint. Maintain the markings, including repainting faded or damaged markings as ordered by the CO, for the duration of the project, or until the CO determines that the markings are no longer needed.

645.08 Restoration. Backfill with original material, thoroughly compacting the material with a mechanical tamper. Restore aggregate base courses and pavement using equivalent materials and thicknesses. For portland cement concrete pavements, use fast setting concrete. For asphalt concrete pavements, cold patch, resurfacing of pit will be permitted so long as, in the opinion of the CO, it is thoroughly compacted.

645.09 Acceptance. Locating utilities will be evaluated under Subsection 106.02.

Measurement

645.10 Measure the Section 645 items listed in the bid schedule according to Subsection 109.02.

For markings, do not measure maintaining the markings.

Payment

645.11 The accepted quantities will be paid at the contract price per unit of measurement for the Section 645 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Section 703.—AGGREGATE

703.02. Add the following:

Gravel will not be permitted.

703.05(a). Delete items (3) and (4).

703.05(b). Add the following:

(3) Plasticity Index, AASHTO T90

3 Max

703.05(b). Add the following:

Material shall have a minimum California Bearing Ratio of 70 percent as determined by AASHTO T 193 at 95 percent of maximum dry density in accordance with AASHTO T 180 (Method D).

703.05(b)(1) Add the following:

At the option of the Contractor, the gradation only of the aggregate base may conform to the requirements of Virginia Department of Transportation 2007 Road and Bridge Specifications Section 309.

Section 710.—FENCE AND GUARDRAIL

710.01. Add the following:

Furnish barbed wire with a Class 1 galvanized coating.

710.02. Add the following:

Furnish woven wire with a Class 1 galvanized coating.

710.03. Add the following:

Furnish 9 gage chain link fabric.

710.04(a). Add the following:

Treat fence, gate, and bollard posts according to 716.03.

Section 713.—ROADSIDE IMPROVEMENT MATERIAL

713.01. Add the following:

For furnished topsoil, submit a soil analysis report from the State University Agricultural Extension Service or other approved soil testing laboratory. Include in the report the soil textural classification (percentage of sand, silt, clay and organic matter) and additive recommendations.

713.02. Add the following:

Use a maximum of 0.17 pounds of limestone per cubic foot of topsoil in order to adjust an acidic condition.

713.03. Add the following:

Furnish fertilizer containing the following minimum available nutrients, unless soil analysis indicates higher concentrations are required:

Total nitrogen	10 percent
Available phosphoric acid	10 percent
Water-soluble potash	10 percent

713.05. Add the following after 713.05(h):

(i) Shredded Hardwood Mulch. Furnish aged hardwood mulch, dark brown to black in

color, with a particle size of less than 3 inches, a neutral pH, and free of sticks, stones, clay, or other matter which may injure plants.

Section 715.—PILING

715.03 Add the following:

Use concrete for piles containing 3.5 gallons per cubic yard of calcium nitrite unless granulated iron blast-furnace slag (minimum 40 percent by weight) or silica fume (minimum 7 percent by weight) is used. Use a Calcium nitrate solution with 30 percent solids or other approved material. Granulated blast-furnace slag conforming to the requirements of ASTM C989, Grade 100 or 120. Silica fume conforming to the requirements of AASHTO M307.

Section 717.—STRUCTURAL METAL

Add the following after Subsection 717.16:

717.17. Elastomeric Expansion Joint Seals. Furnish synthetic, non-wicking, fabric-reinforced, neoprene elastomeric expansion joint seals. Furnish neoprene elastomer conforming to ASTM D 2000 and to Table 717-4.

<u>Physical Property</u>	<u>ASTM Test Method</u>	<u>Requirement</u>
Hardness, Durometer A	D 2240	60±5
Tensile Strength	D 412	2000 psi min
Elongation at Break	D 412	250% min
Low Temperature	D 746	Not Brittle at -67 °F
Weather Resistant	D 1171	No Cracks
Ozone Cracking	D 1149	No Cracks
100 PPHM 70 hours @ 100 °F, 20% strain		
Water Resistance	D 471	3% max. volume swell
Compression Set	D 395, Method B	25% max
22 hours @ 158 °F		

Section 725.—MISCELLANEOUS MATERIAL

725.21. Add the following:

Furnish a 2-component epoxy resin binder mixed together at the site as prescribed by the manufacturer. The pot life of the epoxy, mixing period, maximum time lapse between mixing and application, and the curing period are all dependent on the temperature, humidity, and wind conditions, and the proprietary product being used.

Package epoxy components in containers that are clearly marked with a warning of the hazards involved in handling the material.

Obtain technical assistance from the manufacturer of the epoxy binder and follow the manufacturer's recommendations concerning proper use and installation. Submit the product proposed for use, manufacturer's name, and data concerning composition and application for approval before use on the project.

Add the following after Subsection 725.29:

725.30 EXPANDED POLYSTYRENE (EPS). Conform to the following:

- (a) **Elasticized Expanded Polystyrene (EPS):** EPS shall have a size tolerance of 1/8 inch for each dimension and conform to the following:

Physical Property	Test Method	Requirements
Compressive strength	D-1621	720 psf +/-60 psf @10% strain
Water absorption	C-272	Max. 3% by volume
Insect Resistance	D-3345-74	Resistance to ants, termites, etc.

The EPS shall be elasticized, with a linear-elastic stress-strain behavior up to 10 percent strain and linear proportional stress-strain behavior up to 30 percent strain.

The EPS shall contain no chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs) or formaldehyde. It shall be chemically and biologically inert when in contact with acidic and alkaline soils. It shall be treated to prevent insect attack.

Materials shall withstand temperature variations from 0°F to 140°F without deforming and shall maintain their original dimensions and placement without chipping, spalling, or cracking. Material shall not deteriorate because of contact with sodium chloride, calcium chloride, mild alkalis and acids, or other ice control materials.

The EPS shall contain a flame retardant additive.

- (b) **Geotextile Separation Fabric:** A non-woven geotextile separation fabric shall be placed between the EPS and the backfill material. Fabric joints shall have a minimum overlap of twelve inches. Fabric shall extend a minimum of twelve inches beyond the EPS surface and overlap with adjacent concrete surface.

The separation fabric shall have the following properties:

Physical Property	Test Method	Requirements
Grab Strength	D-4632	Min. 250 lb
Puncture Strength	D-4833	Min. 112 lb
Tear Strength	D-4533	Min. 90 lb
Permittivity	D-4491	Min. 0.5 sec ⁻¹
Apparent Opening Size	D-4751	Max. No. 50 sieve

Geotextile separation fabric shall be protected from mud, dirt, dust, sunlight, and debris during transport and storage. Material shall be inert to commonly encountered chemicals; resistant to mildew, rot, insects, and rodents; and biologically and thermally stable. Geotextile separation fabric for subsurface installation shall not be exposed to direct sunlight for more than 24 hours during installation.

Tensile strength requirements are in the machine and cross-machine directions.

- (c) **Adhesive:** Adhesive shall be used to bond the EPS to concrete surfaces and the separation fabric to the EPS. It shall be applied in accordance with the EPS manufacturer's recommendations.
- (d) **Backfill Material:** Backfill material adjacent to the separation fabric shall be as specified in the contract documents.

Add the following after Subsection 725.30:

725.31 MOLDED HIGH LOAD CAPACITY (HLC) GRATING. Conform to the following:

(a) General

- (1) All FRP items furnished under this Section shall be composed of fiberglass reinforcement and resin in qualities, quantities, properties, arrangements, and dimensions as necessary to meet the design requirements and dimensions as specified in the Contract Documents.
- (2) Fiberglass reinforcement shall be continuous roving in sufficient quantities as needed by the application and/or physical properties required.
- (3) Provide resin with chemical formulations as necessary to provide the corrosion resistance, strength and other physical properties as required.
- (4) All finished surfaces of FRP items and fabrications shall be smooth, resin-rich, free of voids and without dry spots, cracks, crazes or unreinforced areas. All glass fibers shall be well covered with resin to protect against their exposure due to wear or weathering.
- (5) All grating products shall have a Class 1 Fire Rating and a tested flame spread rating of 25 or less per ASTM E-84 Tunnel Test. Grating shall also meet the self-extinguishing requirements of ASTM D635.

- (6) All mechanical grating clips shall be manufactured of Type 316SS (stainless steel).

(b) Molded High Load Capacity (HLC) FRP Grating

- (1) Manufacture: Grating shall be of a one-piece molded construction with tops and bottoms of bearing bars and cross bars in the same plane. Grating shall have a rectangular mesh pattern and have substantial bi-directional strength. Gratings shall be reinforced with continuous rovings of equal number of layers in each direction. The top layer of reinforcement shall be no more than 1/8" below the top surface of the grating so as to provide maximum stiffness and prevent resin chipping of unreinforced surfaces. percentage of glass (by weight) shall not exceed 45% so as to achieve maximum corrosion resistance, and as required to maintain the structural requirements of the CONTRACT.

After molding, no dry glass fibers shall be visible on any surface of bearing bars or cross bars. All bars shall be smooth and uniform with no evidence of fiber orientation irregularities, interlaminar voids, porosity, resin rich or resin starved areas.

- (2) Color: Dark Gray
- (3) Depth: 2" with a tolerance of plus or minus 1/16".
- (4) Mesh Configuration: 1" X 2" with a tolerance of plus or minus 1/16" mesh centerline to centerline.
- (5) Grating bar intersections are to be filleted to a minimum radius of 1/16" to eliminate local stress concentration and the possibility of resin cracking at these locations.
- (6) Panel Size: 1' - 4" X 5' - 6" with load bars parallel to the 1' - 4" direction.
- (7) Substitutions: Other products of equal strength, stiffness, corrosion resistance and overall quality may be submitted with the proper supporting data to the engineer for approval.

(c) Submittals

- (1) Submit manufacturer's shop drawings of all fabricated gratings clearly showing material sizes, types, styles, part or catalog numbers, complete details for the fabrication of and erection of components including, but not limited to, location, lengths, type and sizes of fasteners and connection details.
- (2) Submit the manufacturer's published literature including structural design data, structural properties data, grating load/deflection tables, corrosion resistance tables, certificates of compliance, test reports as applicable and design calculations for systems not sized or designed in the contract documents.
- (3) Submit sample of each item specified herein, manufactured by the method used in the Work and as quality and color.

(d) Quality Assurance

- (1) All items to be provided under this Section shall be furnished only by manufacturers having experience in the design and manufacture of similar products and systems. If requested, experience shall be demonstrated by a record of at least five (5) previous, separate, similar successful installations in the last five (5) years.
- (2) Manufacturer shall offer a 3 year limited warranty on all FRP products against defects in materials and workmanship.
- (3) Manufacturer shall be certified to the ISO 9001-2000 standard.
- (4) Manufacturer shall provide proof of certification from at least two other quality assurance programs for its facilities or products (UL, DNV, ABS, USCG, AARR).

(e) Grating Fabrication

- (1) Measurements: Gratings supplied shall meet the dimensional requirements and tolerances as shown or specified. The Contractor shall provide and/or verify measurements in field work fabricated to fit field conditions as required by grating manufacturer to complete the work.
- (2) Layout: Each grating section shall be readily removable, except where indicated on drawings. Gratings shall be fabricated free from wraps, twists, or other defects which affect appearance and serviceability.
- (3) Sealing: All shop fabricated grating cuts shall be coated with vinyl ester resin to provide maximum corrosion resistance. All field fabricated grating cuts shall be coated similarly by the contractor in accordance with the manufacture's instruction.
- (4) Hardware: If required by the contract drawings. Type 316 stainless steel hold-down clips shall be provided and spaced as per the recommendation n of the manufacturer.

(f) Product Delivery and Storage

- (1) All gratings and components shall be shop fabricated and piece match marked to assembly or erection drawings.
- (2) Delivery of Materials: All manufactured materials shall be delivered in original, unbroken pallets, packages, containers, or bundles bearing the label of the manufacturer. Adhesives, resins, and other catalysts and hardeners shall be crated or boxed separately and noted as such to facilitate their movement to a dry indoor storage facility.
- (3) Storage of Products: All materials - before, during and after shipment – shall be carefully handled to prevent them from abrasions, cracking, chipping, twisting, other deformations, and other types of damage. Store items in an enclosed area and free from contact with soil and water. Store adhesives, resin and other catalysts and

hardeners in dry indoor storage facilities between 70 and 85 degrees Fahrenheit (21 to 29 degrees Celsius) until they are required.