

***MARYLAND TRANSPORTATION AUTHORITY***

***Baltimore, Maryland***

***Invitation for Bids***

Baltimore Harbor Tunnel Thruway

Fort McHenry Tunnel

Francis Scott Key Bridge

John F. Kennedy Memorial Highway

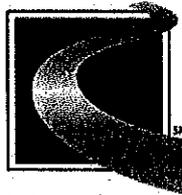
Governor Harry W. Nice Memorial Bridge

Intercounty Connector (ICC)

Thomas J. Hatem Memorial Bridge

William Preston Lane, Jr. Memorial Bridge

The Authority's Point Breeze Property



**Maryland  
Transportation  
Authority**

**Contract No. MA 2372-000-002**

**On-Call Machinery, Electrical, and Structural Repairs and  
Modifications**

**Anne Arundel, Baltimore, Cecil, Charles, Harford, Howard,  
Montgomery, Prince George's, Queen Anne's Counties and  
Baltimore City**

**October, 2009**



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## NOTICE TO BIDDERS

Please review the checklist prior to submitting your bid on this Contract.

- When submitting your completed bid, do not separate the book. Submit the whole book including all addenda acknowledgment pages.
- Make sure that all addenda letters are attached outside of the front cover of the bid book.
- If the addendum has revised the Schedule of Prices, make sure that you have included the revised pages in your bid. Your price should reflect any and all changes.
- Prices must be written numerically and in words, unless approved substitute forms are used (Refer to GP-2.06). Don't leave any items blank.
- When tabulating your final price, make sure all your calculations are correct.
- Minority Business Enterprise Attachments A and B must be completed and submitted with your bid. If either of these attachments is missing your bid is non-responsive. Attachments C and D **should not** be submitted at time of bid.  
**For additional information on how to complete the MBE Attachments, please see the insert named "Important Information regarding MBE Utilization and Bidding Requirements" located in the IFB.**
- The Bid/Proposal Affidavit must be completely filled out and signed by all the parties as indicated.
- If Escrow is being offered in a contract, the contractor must indicate whether or not they wish to utilize an Escrow Account for Retained Funds on the provided form.
- A bid bond must accompany all bids of One Hundred Thousand Dollars (\$100,000.00) or more. The bid bond document must be completely filled out and have an original Power of Attorney form attached.
- If the document is too large for the envelope that we have provided, you can place the document in another form of packaging that can be sealed and submitted. If the document is too large for the bid box, you should alert the receptionist.
- Make sure that your company's name, address, the contract number and the bid date appears on the front of the packaging.
- When submitting bid packages via US Mail, Federal Express, DHL, UPS or any other delivery service it is your responsibility to make sure that the bid reaches the bid box before the time deadline. It may be in your best interest to send the package 24 hours in advance of the deadline. Also, when sending packages this way, make sure that the labeling specifies that it is a bid submission.

## **Notice to Bidders/Offerors**

### **EMaryland Marketplace Fee**

In order to take advantage of Maryland State and Local government contracting opportunities, vendors/contractors are encouraged to register with eMaryland Marketplace. The free registration provides a means for businesses to receive e-mail notification of upcoming contracting opportunities in their specified areas of interest and expertise.

For registration requirements, visit:

[www.eMarylandMarketplace.com](http://www.eMarylandMarketplace.com)

# IMPORTANT INFORMATION REGARDING MBE UTILIZATION AND BIDDING REQUIREMENTS

The Maryland Transportation Authority (the "Authority") has been forced to reject many recent bids/proposals due to bid submissions that were not in strict compliance with the stipulated MBE rules and regulations. The following checklist has been developed to highlight certain critical components of the MBE program requirements. This listing is not all-inclusive and the bidder **must** comply with all MBE rules and regulations listed throughout this entire proposal book.

Please read all of the instruction provided on Attachment A, B, C & D in its entirety before completing the forms.

Attachment A (Certified MBE Utilization and Fair Solicitation Affidavit) & Attachment B (MBE Participation Schedule) must be included with the submittal of the bid or offer. If the bidder or offeror fails to submit these forms with the bid/offer as required, the Procurement Officer **shall deem the bid non-responsive** or shall determine that the **offer is not reasonably susceptible** of being selected for award. MBE Prime Contractors must achieve the established MBE goal with other certified MBE contractors. A Prime MBE Contractor **can not** count itself as an MBE to obtain the goal.

## ATTACHMENT A

When filling out Attachment A, make sure you complete the following:

- If the Prime Contractor can achieve the established overall goal and sub goals, you must check the appropriate box.
- If after making good faith efforts, you determine you can not achieve the established overall goal or subgoals, you must request a waiver by checking the appropriate box.
- If you do not request the waiver at time of bid and you **are not** meeting the established goal(s), your bid/offer will be considered **non-responsive or not reasonably susceptible of being selected for award.**
- Attachment A must be signed and dated.

## ATTACHMENT B Part 2

When filling out Attachment B, make sure you have included the following:

- Prime Contractor's name, address and phone number.
- Project description.
- Project number/Solicitation Number.
- List the minority firm name(Column 1), certification number and MBE Classification (Column 2), Total sub contract dollar amount (Column 3) and NAICS Codes of the services to be performed or products to be supplied (Column 4)
- Clarify for each sub-contractor if it will provide services, is a supplier or will supply and install (Column 5)
- It is the Contractor's responsibility to ensure that the proposed subcontractors are certified to perform the proposed work. All Contractors are to submit an approvable MBE plan at time of bid. Approvable means, the subcontractors are certified in the applicable NAICS Codes through MDOT and can perform the proposed services for the required participation goal. Contractors pending MBE certification at time of bid are **not** eligible for participation. If you submit a firm that is not certified to perform the proposed services and your contract falls short of the established MBE goal, your firm will be considered **non-responsive or not reasonably susceptible of being selected for award.**
- Prime Contractors are strongly encouraged to check the MDOT database at [www.mbe.md.state.md.us](http://www.mbe.md.state.md.us) to see if the subcontractor is certified to perform the services and to make sure the subcontractor has not graduated from the listed NAICS codes. If you have questions after checking the data base, you may contact the Authority MBE Office at 410-537-1048 for further assistance.

If you are using a supplier, the 60% rule applies. Please refer to the MBE Manual for the description of the 60% rule.

Please provide details on how you arrived at the 60% on Attachment B (Column 5) (i.e. - \$150,000.00 X 60% = \$90,000.00).

- If you are requesting a third tier relationship, you must state that request on the Attachment B form (Column 1). Please note: Third Tier MBE/DBE subcontracting will be approved by the Authority only when the Authority is satisfied that there is no way except by Third Tier contracting that an MBE/DBE goal can be achieved. Specifics as to why a Third Tier contracting agreement must be included.

- Attachment B must be signed and dated.
- If you are the apparent low bidder, you will receive a letter from the Authority requesting your MBE Attachment C (Outreach Efforts Compliance Statement) and Attachment D (Subcontractor Project Participation Affidavit). You will have ten (10) working days to submit the attachments to the Authority. If you requested a waiver at time of bid, all of the back up documentation that complies with COMAR 21.11.03.11, must be submitted within the ten working days with Attachments C & D.
- If the apparent low bidder fails to return the required documentation within the allotted ten (10) days, the Procurement Officer may determine that the apparent low bidder is not responsible and therefore not eligible for contract award.

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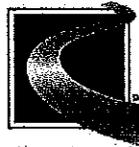
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On-Call Machinery, Electrical, and Structural Repairs and  
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Baltimore City

**October, 2009**

**NOTICE TO BIDDERS**

A "Pre-Bidding Session" for the purpose of answering or obtaining answers to questions of parties interested in constructing the work relative to Right-of-Way, Utilities, Design, and Construction Details will be conducted at 9:00 AM on November 2, 2009, in the Conference Room, FSK Administration Building at 303 Authority Drive in Dundalk, Maryland. While attendance at the Pre-Bid conference is not mandatory, this is the offerer's opportunity to raise questions and/or issues of concern regarding the Project.



**NOTICE TO ALL HOLDERS OF THIS CONTRACT DOCUMENT**

**NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP)  
REPORT 350 IMPLEMENTATION SCHEDULE FOR DEVICES USED IN THE  
MAINTENANCE OF TRAFFIC**

Except as otherwise specified in this Section, all items for the maintenance of traffic, including those listed under the following categories, shall be crashworthy in conformance with Level 3 or other Level as specified by the Engineer in conformance with the safety crash testing and performance criteria published in the National Cooperative Highway Research Program (NCHRP) Report 350, "Recommended Procedures for the Safety Performance Evaluation of Highway Features." When conformance with NCHRP Report 350 is required, the Contractor shall provide the Engineer with the manufacturers' certifications that the devices comply with the specified criteria.

Unless specifically waived by an attachment to these Contract Provisions, devices must be approved by the Office of Traffic and Safety.

**Category 1 Devices**

These devices are cones, tubular markers, flexible delineator posts, and drums, all without any accessories or attachments, which are used for channelization and delineation.

**Category 2 Devices**

These devices are Type I, II, and III barricades; portable sign supports with signs; intrusion alarms; and drums, vertical panels, and cones, all with accessories or attachments.

**Category 3 Devices**

- (a) Truck Mounted Attenuators (TMAs) and Trailer Truck Mounted Attenuators (TTMAs) .
- (b) Temporary Barrier.
  - (1) Concrete Barrier.
  - (2) Traffic Barrier W Beam and Water Filled Barrier.
  - (3) Steel/Aluminum Barrier.
- (c) Temporary End Treatments.

**Category 4 Devices**

These devices are area lighting supports, arrow panels, and portable variable message signs that are usually portable or trailer-mounted.

**CONTRACT PROVISIONS  
(NCHRP) REPORT 350 IMPLEMENTATION SCHEDULE**

CONTRACT NO. MA 2372-000-002  
2 of 2

<b>WORK ZONE DEVICES</b>	<b>IMPLEMENTATION SCHEDULE TO CONFORM TO NCHRP REPORT 350 CRITERIA</b>
<p><b>CATEGORY 1</b> Cones, tubular markers, flexible delineator posts, and drums (all without any accessories or attachments)</p>	<p>All devices shall conform to NCHRP Report 350 criteria.</p>
<p><b>CATEGORY 2</b> Type I, II, and III barricades; portable signs supports with signs; intrusion alarms; and drums, vertical panels, and cones (all with accessories or attachments)</p>	<p>All devices shall conform to NCHRP Report 350 criteria.</p>
<p><b>CATEGORY 3</b> (a) Truck Mounted Attenuators (TMAs); Trailer Truck Mounted Attenuators (TTMAs) (b) Temporary Barriers     (1) Concrete Barrier     (2) Traffic Barrier W Beam and Water Filled Barrier     (3) Steel/Aluminum Barrier (c) Temporary End Treatments</p>	<p>All devices shall conform to NCHRP Report 350 criteria.</p>
<p><b>CATEGORY 4</b> Portable trailer mounted devices including area lighting supports, arrow panels, and changeable message signs</p>	<p>The Contractor may use devices that do not conform to NCHRP Report 350 criteria, until compliance dates are established. Use of these devices shall comply with the provisions of Part 6 of the MUTCD.</p>



**NOTICE TO ALL HOLDERS OF THIS CONTRACT DOCUMENT**

**HIGH VISIBILITY SAFETY APPAREL POLICY**

**BACKGROUND.** Research indicates that high visibility garments have a significant impact on the safety of employees who work on highways and rights-of-way. In addition, high visibility garments may help to prevent injuries and accidents and to make highway workers more visible to the motoring public, which ultimately improves traffic safety.

**STATEMENT OF POLICY.**

- (a) The High Visibility Safety Apparel Policy provides a standardized apparel program.
- (b) The program seeks to improve the visibility of all persons who work on Administration highways and rights-of-way.
- (c) All apparel shall contain the appropriate class identification label.
- (d) Compliance with this policy is retroactive and becomes effective immediately. All affected employees shall receive high visibility apparel awareness training.

**APPLICABILITY.** This policy applies to all Administration employees and all other persons who work on Administration highways and rights-of-way. All workers shall wear, at a minimum, Class 2 ANSI/ISEA 107/2004 apparel.

- (a) For Administration employees, this apparel shall have a fluorescent yellow-green background material color and be the outermost garment worn.
- (b) Retro-reflective material color for Administration employee apparel shall be silver or white and be visible at a minimum distance of 1,000 feet. The retro-reflective safety apparel shall be designed to clearly recognize and differentiate the wearer from the surrounding work environment. The retro-reflective material may be contrasted by fluorescent orange background material not exceeding one and one half inches on either side of the retro-reflective material.
- (c) For non-Administration employees, this apparel shall be either fluorescent orange-red or fluorescent yellow-green background material color and be the outermost garment worn.
- (d) Retro-reflective material color for non-Administration employee apparel shall either be orange, yellow, white, silver, yellow-green, or a fluorescent version of these colors, and be visible at a minimum distance of 1,000 feet. The retro-reflective safety apparel shall be designed to clearly recognize and differentiate the wearer from the surrounding work environment.



**CONTRACT PROVISIONS**  
**HIGH VISIBILITY SAFETY APPAREL POLICY**

**REFERENCES.**

- (a) ANSI/ISEA 107/2004 standard – American National Safety Institute/International Safety Equipment Association
- (b) MUTCD 2003 – Manual for Uniform Traffic Control Devices - Sections 6D.03B and 6E.02
- (c) Visibility Research – The VCTR 1989 report concludes that fluorescent colors, when compared with non-fluorescent colors, enhance the daytime conspicuity of worker clothing.

**DEFINITIONS.**

- (a) Apparel – The outermost high-visibility garment worn by employees who work on Administration highways and rights-of-way.
- (b) Highways – All roads owned by the Maryland Department of Transportation and maintained by the Administration.
- (c) High Visibility – The ability for workers to be distinguishable as human forms to be seen, day and night, at distances that allow equipment operators and motorists to see, recognize, and respond.



**CONTRACT PROVISIONS**  
**OCCUPYING WETLANDS**

Contract No. MA 2372-000-002  
1 of 1

**OCCUPYING WETLANDS**

The Contractor is hereby alerted to the importance of preserving wetland areas. The Administration, in conjunction with the various environmental agencies, has developed these Contract Documents so as to minimize or eliminate disturbance and damage to existing wetland areas. In order to accomplish this, the following must be rigidly adhered to:

- (a) Prior to performing any work on the project, the areas of wetland will be identified and marked as directed by the Administration. All personnel of the Contractor or sub-contractors shall be alerted to these designated areas.
- (b) The Contractor or sub-contractors shall not impact any wetland or waterway, whether it be permanently or temporarily unless otherwise stipulated in the permit application and approved as an authorized action by the appropriate regulatory agency. No fill shall be placed in these areas without a permit.
- (c) If a Contractor or sub-contractor has to impact a wetland or waterway that is not covered by an existing wetland permit, they shall immediately notify the Engineer. The Engineer will notify the Environmental Programs Division to determine the extent of any permit modification. At that time the Environmental Programs Division will request a permit modification or submit a permit application.
- (d) If the Contractor impacts any wetland or waterway for which they do not have a wetland permit, they shall be responsible for restoring the wetland areas and possibly mitigating the wetland impacts to the full satisfaction of the environmental agencies, which could include monetary compensation.
- (e) The cost of restoration and mitigation of the impacted areas shall be at no additional cost to the Administration.

The importance of not abusing the wetland areas cannot be overemphasized. Abuse of wetland areas could jeopardize the operation of the total Contract and could be cause for a shut-down. If a shut-down occurs because of the Contractor's failure to secure the required permits (i.e. the Contractor's method of work includes impacts not approved by previously acquired permits), the Contractor's negligence or operations, all costs and damages to the Contractor and to the State will be at no additional cost to the Administration. Noncompliance with these requirements will not be considered for an extension of Contract time.



Maryland  
Transportation  
Authority

SPECIAL PROVISIONS

Contract No. MA 2372-000-002

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**SP 1-1 PROJECT DESCRIPTION**

CONTRACT NO.: MA 2372-000-002

TITLE: On-Call Machinery, Electrical, and Structural Repairs and Modifications

FACILITY: Baltimore Harbor Tunnel Thruway, Fort McHenry Tunnel, Francis Scott Key Bridge, John F. Kennedy Memorial Highway, Governor Harry W. Nice Memorial Bridge, Thomas J. Hatem Memorial Bridge, ICC, Point Breeze Properties, and William Preston Lane, Jr. Memorial Bridge

COUNTY: Anne Arundel, Baltimore, Cecil, Charles, Harford, Howard, Montgomery & Prince George's, Queen Anne's Counties, and Baltimore City

ADVERTISED: **October 20, 2009**

PRE-BID MEETING: **November 2, 2009 at 9:00 a.m.** in the Conference Room at the Maryland Transportation Authority, 303 Authority Drive, FSK Administration Building, Baltimore, MD 21222.

PROJECT CONTACT: Project Manager: Mr. Abey Tamrat at (410) 537-7822  
Contract Administration: Ms. Maggie Johnson at (410) 537-7807

BIDS DUE: **12 Noon, November 19, 2009**, in the Bid Box on the 1<sup>st</sup> floor of the Maryland Transportation Authority, Engineering/Finance Building, 300 Authority Drive, Baltimore, MD 21222.

CLASSIFICATION: Class - E (\$2,500,001 to \$5,000,000)

CONTRACT TIME: One Thousand Four Hundred Forty (1440) Calendar Days

LIQUIDATED DAMAGES: N/A

MINIMUM MBE GOALS: Overall 18%  
No Subgoals

BID DOCUMENTS: **\$25.00** Bid documents can be purchased between 7:30 a.m. and 3:30 p.m., Mondays, Wednesdays, Thursdays and Fridays and between 10:00 a.m. and 4:00 p.m. on Tuesdays at the Ticket Office located at the Francis Scott Key Bridge, Maryland Transportation Authority, Administration Building, 303 Authority Drive, Baltimore, MD 21222.



The work to be performed under this contract is located in the following Maryland Transportation Authority (“Authority”) facilities:

- a) John F. Kennedy Memorial Highway (I-95 in Harford, Cecil and Baltimore Counties);
- b) Thomas J. Hatem Memorial Bridge (U.S. 40 in Harford and Cecil Counties);
- c) Fort McHenry Tunnel (I-95 and I-395 in Baltimore City);
- d) Baltimore Harbor Tunnel Thruway (I-895 in Baltimore City and Baltimore, Anne Arundel and Howard Counties);
- e) Francis Scott Key Bridge Facility (I-695 in Baltimore City and Baltimore and Anne Arundel County);
- f) William Preston Lane Jr. Memorial Bridge (Anne Arundel and Queen Anne Counties);
- g) Intercounty Connector (Montgomery County & Prince George’s County);
- h) Governor Harry W. Nice Memorial Bridge (Charles County); and
- i) The Authority’s Point Breeze Property.

The scope of work includes providing labor, materials, equipment, machine shop and fabrication shop work, etc., necessary to perform electrical, mechanical and structural repairs, maintenance, and upgrades on Authority’s draw bridges, I-695 over Curtis Creek Bridges, at the Ventilation Buildings of both Baltimore Harbor Tunnel & Fort McHenry Tunnel. In addition, this work may be required on any portion (bridge, tunnel, highway, building, and all appurtenances) of any of the Authorities facilities. The work may include but not be limited to the following:

**1) Francis Scott Key Bridge Facility (I-695 over Curtis Creek Bridges):**

- (a) Trouble shooting and repairing mechanical and electrical malfunctions in movable span bridges.
- (b) Trouble shooting and repairing electrical components and control systems for movable span bridges.
- (c) Working in conjunction with engineering consultants, fabricators, and suppliers to design and construct major and complex upgrades to electrical, mechanical, and structural drawbridge components.
- (d) Manufacturing or pouring babbitt bearings in the shop and in the field.
- (e) Balancing movable bridge spans.
- (f) Millwright work on the bridge machinery.
- (g) Rebuilding components of movable bridge spans and supports.



- (h) Shop fabrication of new movable span components.
- (i) Machine shop manufacture of machinery components.
- (j) Setting limit switches.
- (k) Adjustment and repair of center lock and tail lock mechanisms.
- (l) Manufacture or repair of brake parts.
- (m) Manufacture or repair of gate machinery.
- (n) Assisting Engineering during inspection. This may require opening of differentials, removal of bearing caps, cleaning bearings, and opening grease groves
- (o) Scheduled greasing of mechanical components
- (p) Remove and replace all or portions of concrete in superstructure.
- (q) Repair or replacement of damaged and deteriorated reinforcement or structural areas.
- (r) Cleaning and painting of repaired areas.
- (s) Remove, repair and replace damaged grid deck, railing or balustrades. The Contractor may be directed to remove balustrade and replace with traffic barrier W beam.
- (t) Repair piers, pier caps, or abutments.
- (u) Replacement of accident damaged steel beams.
- (v) Deck repairs and other miscellaneous structural repairs on both bridges

**2) Baltimore Harbor Tunnel & Fort McHenry Tunnel Facilities (Ventilation Buildings):**

- a) Manufacture or repair of lighting, heating and security systems.
- b) Manufacture or repair of tunnel SCADA systems.
- c) Manufacture or repair of pumping equipment.
- d) Manufacture or repair of high, medium, and low voltage switchgear systems.
- e) Setting or adjusting sensors.
- f) Shop fabrication of tunnel ventilation fan and pumping machinery
- g) Millwright work on tunnel ventilation fan and pumping machinery.
- h) Working in conjunction with engineering consultants, fabricators, and suppliers to design and construct major and complex upgrades to electrical, mechanical, and structural tunnel ventilation and pumping equipment.



- i) Troubleshooting and repairing electrical components and control systems for tunnel ventilation fans.
- j) Troubleshooting and repairing mechanical and electrical malfunctions in tunnel ventilation and pumping systems.
- k) Replacement of lighting fixtures, and electronic signage within tunnel and adjoining pathways and rooms
- l) Replacement of ceiling panels and support beams, i.e. after they are damaged in a fire or other accident.
- m) Replacement of wall tiles within tunnels.
- n) Replacement/Repair of handrails, doors and other miscellaneous items within tunnel and adjoining pathways and rooms
- o) Concrete repairs to roadway, within ventilation ducts, and in adjacent pathways, pumping rooms and fan rooms.
- p) Cleaning and painting steel. This includes structural steel as well as steel frames for fan housings and machinery supports.
- q) Miscellaneous structural repairs to ceiling panels and hangers in tunnel.

Portions of this work may have to be performed on an emergency basis rather than as a routine project. If an emergency situation arises, the Contractor hereby agrees to give the emergency situation first priority until the emergency is resolved, even though this may be at the expense of other tasks for which the Contractor is responsible.

The Engineer will provide a list and priority of projects to the Contractor on a monthly basis. Within two (2) weeks of receiving an assignment, the Contractor shall supply the following information:

- (a) The estimated time to receive all materials.
- (b) The estimated number of work days to complete the project.
- (c) The estimated cost to complete the project. This estimated cost shall utilize the appropriate bid prices established in this Contract. The estimate shall be itemized to include all anticipated labor, equipment, materials, and subcontractors.
- (d) When requested by the Engineer, a lump sum cost proposal shall be submitted that will include all labor, materials, equipment, and subcontractors required to complete the project. The Administration may request a lump sum estimate for a specific project from multiple contractors under this and similar contracts to determine the lowest lump sum bid. The lowest responsible lump sum bidder will be awarded that specific project. If an agreement on prices cannot be reached, the work will be performed using the prices for the bid items included in this Contract.



The preparation of these estimates and proposals will not be measured, but the cost will be incidental to other pertinent items specified in the Contract Documents.

The Contractor shall furnish to the Engineer the names, addresses, phone numbers, pager numbers, etc. of at least two individuals who can be contacted by the Engineer and who are authorized to provide construction services in the event of an emergency as determined by the Engineer. One of these individuals shall be available at all times to be contacted within a maximum time period of two (2) hours.

The Contractor shall be onsite if requested within four (4) hours of initial notification, particularly for such an emergency. Failure to comply with this requirement will result in a penalty of \$50.00/min. from initial notification.

The Authority reserves the right to terminate the Contract for any reason, including its own convenience, by giving prior written notice to the Contractor. Work shall be performed as directed by the Engineer and may not be on a continual basis.

The Contractor is alerted to the fact that more than one crew may be required at one time. Routine maintenance, such as required greasings, and emergency troubleshooting and repairs shall be handled by the Contractor without disruption to other projects already underway under this project. Crew size and composition will vary depending on the needs of each specific project.

The Contractor is responsible for proper disposal of waste materials in accordance with local, state, and federal regulations.

### **SP 1-2 SPECIFICATIONS**

All work on this project shall conform to the Maryland Department of Transportation, State Highway Administration's Specifications entitled, "Standard Specifications for Construction and Materials" dated July 2008, revisions thereof, or additions thereto, and the Special Provisions included in this Invitation for Bids.

### **SP 1-3 ORIGINAL FACILITY PLANS AND SITE VISITS**

The original facility plans are on file at the Engineering/Finance Building of the Francis Scott Key Bridge and will be made available for inspection to prospective bidders. Parties interested in viewing the plans should contact Mr. Abey Tamrat at (410) 537-7822. Parties interested in visiting the site should contact the following:

- a) John F. Kennedy Memorial Highway and Thomas J. Hatem Memorial Bridge – Mr. John Lohmeyer at (410)-537-1107.
- b) Fort McHenry Tunnel - Mr. Mike Darago at (410)-537-1269.
- c) Baltimore Harbor Tunnel Thruway - Mr. John Monk at (410)-537-1315.
- d) Francis Scott Key Bridge – Mr. Charles Raycob at (410)-537-7513.
- e) Wm. Preston Lane Jr. Memorial Bridge, Mr. Don Watts at (410)-537-6651.

- f) Governor Harry W. Nice Memorial Bridge - Mr. Gary Jackson at (301)-259-4870.

#### **SP 1-4 - PROMPT PAYMENT TO SUBCONTRACTORS**

The prime Contractor is responsible for making timely payments to all Subcontractors and Suppliers and provide written certification as required in Section 17-106 of the State Finance and Procurement Article of the Annotated Code of Maryland, as amended.

This contract requires the Contractor to make payment to all Subcontractors within ten (10) days of receiving payment from the Maryland Transportation Authority ("Authority").

Each month, the construction Project Engineer will review the current pay items with the prime Contractor and all involved Subcontractors to ensure that all work satisfactorily completed within specifications is included in the monthly progress payment. For payment purposes, the same quantity totals used to compute the payment to the prime Contractor will be the basis for payment to the Subcontractor.

If the Subcontractor does not receive payment within the required ten (10) days, the Subcontractor shall notify the Project Engineer in writing of the amount in dispute including the item numbers and payment quantity for each. The Project Engineer will then notify the Director of Construction of the dispute. The Director of Construction or his representative will verbally contact the prime Contractor within 48 hours to ascertain whether or not a performance dispute exists which necessitates non-payment to the Subcontractor. If a performance dispute exists, the prime Contractor must demonstrate that there is a valid basis to withhold payment from the Subcontractor. If the prime Contractor withholds payment from a Subcontractor, the prime Contractor shall provide to the Subcontractor written notice of the withholding of payment. The notice shall detail the reasons for withholding payment as well as the amount. A copy of the notice shall be provided to the Surety and the Authority. If no valid dispute exists, the prime Contractor will be directed to make immediate payment to the Subcontractor. The Subcontractor will be responsible for notifying the Director of Construction if this payment is not made. Upon receipt of notification, the Director of Construction will schedule a meeting with the Contractor and Subcontractor to verify and discuss the non-payment issue. This meeting will be held at the Authority's offices within two (2) working days of the Authority's contact with the subcontractor. If it is determined that the prime Contractor has withheld payment to the Subcontractor without cause, further progress payments to the prime Contractor will be withheld until the Subcontractor is paid. In addition, the Authority may order a suspension of work or other administrative actions as it sees fit.

If an action is taken as stated above the Contractor shall notify the Authority's Project Engineer when payment is made. After the Authority's Project Engineer verifies that payment has been made to the Subcontractor the Authority shall release withheld progress payments.



Nothing in this Special Provision shall be construed to prevent the Subcontractor from pursuing a claim with the surety under the prime Contractor's payment bond at any time.

### **SP 1-5 WORK HOURS**

Refer to Section 104 "Maintenance of Traffic" and contract plans for lane and shoulder closures.

The Contractor shall cooperate with any other Contractors that are on site during the term of the project, as stated in GP-5.06 of the Standard Specifications. If the Contractor is directed to move off a bridge/work site once its operations have begun because of unforeseen event, it will be compensated in accordance with the specifications.

Except for maintenance of traffic restrictions, the Contractor will be permitted to work twenty-four (24) hours a day, seven (7) days a week. However, no lane or bridge closures will be permitted during high winds (greater than 25 mph), rain, snow or other precipitation events when water, ice or snow is on the roadway or when there is the potential for fog, as determined by the Authority. Nighttime construction noise shall not be allowed unless directed by the Engineer.

### **SP 1-6 INSURANCE**

#### **TC-5.01 INSURANCE**

Section TC 5.01 of the Standard Specifications is supplemented as follows:

1. The Contractor shall not commence work under this contract until he has obtained all of the minimum amounts of insurance required by these Special Provisions and the insurance has been approved by the Engineer. The Contractor shall furnish to the Maryland Transportation Authority ("Authority") duly executed certification of all required insurance on forms satisfactory to the Authority. The certificates of insurance shall state that it is in force and cannot be cancelled, release or non-renewed except upon thirty (30) days prior written notice, registered mail to the Authority. All Contractors' insurance policies, with the exception of the Worker's Compensation and Employer's Liability, shall be endorsed to provide as additional insureds the Maryland Transportation Authority and the State of Maryland.
2. The Contractor shall purchase and maintain such insurance as is specified herein which will provide the Authority, its members, employees and agents, as well as the Contractor from claims which may arise out of or as a result of the Contractor's operations under this contract, whether such operations be by the Contractor, by any subcontractor, by anyone directly or indirectly employed by any of them or by anyone whose acts any of them may be liable. This insurance shall be maintained in full force until the Contract has been accepted by the Authority and final payment is made.



3. The Authority requires the following minimum levels of insurance coverage for this contract:

a) Worker's Compensation and Employer's Liability

The Contractor shall, at all times, maintain and keep in force such insurance as will protect him from claims under the Worker's Compensation Act of the State of Maryland and maintain and keep Employer's Liability Insurance at a limit of One Hundred Thousand Dollars (\$100,000.00). The Contractor shall also maintain United States Long Shore and Harbors Act coverage, if such exposure exists.

b) Comprehensive General Liability Insurance

The Contractor shall maintain Comprehensive General Liability Insurance in the amount of at least One Million Dollars (\$1,000,000.00) Combined Single Limit for Bodily Injury Liability and Property Damage Liability Insurance per occurrence and in the aggregate. Such insurance shall specifically include the Comprehensive General

Liability Broad Form Endorsement and indicate explosion, collapse, and underground damage coverage.

c) Comprehensive Automobile Liability Insurance

The Contractor shall maintain Comprehensive Automobile Liability Insurance (including all automotive equipment owned, operated, rented, or leased), in the amount of at least Five Hundred Thousand (\$500,000.00) Combined Single Limit for bodily injury and property damage.

d) Additional Insurance

The Contractor shall also procure and keep in effect:

Excess liability (umbrella coverage) in excess of and applicable to the coverage in the Comprehensive General Public Liability and Property Damage Insurance, "X, C, U" and Comprehensive Automobile Insurance in the amount of at least Two Million Dollars (\$2,000,000.00) for each occurrence.

4. Accident Notification - The Contractor shall send a written report to the Engineer and to the Maryland transportation Authority within twenty-four (24) hours of any accident or other event arising in any manner from the performance of the contract which results in or might result in personal injury or property damage.



5. Failure to comply with these Special Provisions may lead to termination for default or convenience.
6. There will be no special payment for the insurance as required by this contract and all costs incidental thereto shall be included in the Lump Sum for "Mobilization", (refer to Section 108), or if the Contract does not include such an item, the insurance costs are to be included in pay items for the Proposal.

**SP 1-7 MINORITY BUSINESS ENTERPRISE REGULATIONS GOVERNING  
CONSTRUCTION CONTRACTS IN EXCESS OF \$50,000  
EFFECTIVE JULY 1, 2001**

See applicable sections of the Proposal Book for details.

**SP 1-8 PROGRESS SCHEDULE REQUIREMENTS**

Individual tasks may be required to have scheduled developed as directed by the Engineer.

**SP 1-9 CORPORATE REGISTRATION**

A foreign corporation is any corporation not incorporated under the Laws of the State of Maryland. All foreign corporations, prior to performing any services for the Authority, must register with the Maryland State Department of Assessment and Taxation in compliance with Subtitle 2, Title 7, of the Corporations and Associations Article of the Annotated Code of Maryland. Compliance is required of the successful vendor as well as the proposed subcontractors.

To accomplish the required registration, a foreign corporation must request and complete "Qualification Application Forms" which can be obtained from the Department of Assessment and Taxation, State Office Building, Room 803, 301 West Preston Street, Baltimore, Maryland 21201. Forms can be obtained via the Maryland Department of Assessments and Taxation website at [www.dat.state.md.us](http://www.dat.state.md.us).

The Contractor will be responsible for documenting compliance with the aforesaid. This documentation will be required prior to the execution of a contract with the successful bidder.

**SP 1-10 CONTRACTOR'S EMPLOYEE IDENTIFICATION**

The Contractor shall provide to the Authority, a list containing the following for Contractor and all sub-contractors that would be working at the site prior to start of work. This shall include trucking companies who would come to the site on a repetitive basis for supply or to remove materials:



- Name of Company
- Name and title of contact person
- Address of the Company
- Phone Number
- Facsimile number
- E-Mail address of contact person (if any)

All Contractor's employees, including employees of subcontractors, on this project, present at the site, shall be in possession of a valid employee identification card provided by the Employer, which shall contain a photograph and identify the employee by name and job title. The employee must produce the said identification if required by the Engineer or the Authority Police.

When working in or around the Authority's buildings, said employees identification shall be displayed at all times.

While working on the transportation facility projects of the Authority, Contractor's personnel shall have an ID decal displayed on their hardhat. These decals will be provided by the Authority. All Contractor's vehicles shall have a parking decal, attached to the rear view mirror. These parking decals will also be provided by the Authority and a distribution list will be maintained. At the time of project completion these decals shall be returned to the Authority. Requests for hardhat and rearview mirror decals shall be made to the Construction Section before the beginning of construction and should include the number required of each type of decal.

All costs associated with identification cards will not be paid for separately and shall be incorporated under other items of payment in the Contract.

### **SP 1-11 MAINTENANCE OF RAILROAD TRAFFIC**

For purpose of these Special Provisions, Amtrak, CSX Transportation, Inc., and Norfolk Southern Corporation will hereinafter be referred to as the "Railroad". Refer to GP-1.03 of the Standard Specifications for the definition of the "Engineer".

#### **A. Railroad Traffic**

The following requirements will apply to work performed in or near Railroad property.

#### **B. Rules, Regulations, Etc.**

Railroad traffic shall be maintained at all times with safety and continuity within the limitations stated below, and the Contractor shall conduct all operations on, over, and adjacent to the Railroad's property fully within the rules, regulations, and requirements of the Railroad. The Contractor shall be responsible for acquainting itself with such requirements as the Railroad may demand.



Before proceeding with any construction work on, over, or adjacent to the Railroad's property, the Contractor shall submit plans and a detailed description of the method of procedure which will be followed for work in these areas for the approval of the Engineer and the Railroad; however, such approval shall not serve in any way to relieve the Contractor's responsibility for the adequacy and safety of the method of procedure.

Since the work in the field will not be permitted to proceed until the plans and method of procedure have been approved by the Engineer and the Railroad, it shall be the responsibility of the Contractor to submit its plans and method of procedure promptly so that unnecessary delays in construction operations will be avoided.

The Contractor shall be required to submit to the Railroad a written safety program prepared by the Contractor for the education and protection of its employees. This program shall address the hazards and safety considerations in working in the vicinity of the Railroad's property and operation.

No work shall be performed on these portions of the project until such times as all insurance policies, and other requirements of the Railroad have been complied with and their approval, in writing, has been obtained by the Engineer.

The proper official of the railroad to be contacted is as follows:

AMTRAK

Mr. Earl Watson III  
Director I&C Projects  
30<sup>th</sup> Street, Station  
Third Floor Tower, Box 64  
Philadelphia, P.A. 19104  
(215) 349-1393

Norfolk Southern Corporation

Mr. T. David Wyatt  
Engineer, Grade Separations  
Norfolk Southern Corporation  
99 Spring St., SW  
Atlanta, GA 30303  
(404) 529-1641

CSX Transportation, Inc.

Mr. Carl Roe, Jr., P.E.  
Principal Engineer  
Public Improvements  
Engineering Department, J-350  
4901 Belfort Road, Suite 130  
Jacksonville, FL 32256  
(904) 245-1036

Except in emergencies, contact shall be made with the above specified officials.

All construction performed on, under, adjacent to, or over Railroad property will be subject to the inspection and approval of the Railroad.

At least ten (10) days advance notice shall be given, through the Engineer, to the Railroad, prior to entering upon or commencing any work on Railroad property.

Scheduling of the Contractor's operations that may affect the Railroad shall be coordinated through the Railroad. Scheduling or permission to occupy the track shall be made through the appropriate Yardmaster, in addition to the above specified officials.

All work herein provided to be done on, over, and adjacent to the Railroad's property shall be performed by the Contractor in a manner satisfactory to the Railroad, and shall be performed at such times, and in such a manner, as not to interfere with the movements of trains or traffic upon the tracks of the Railroad. The Contractor shall use all reasonable care and precaution in order to avoid accidents, damage, delay, or interference with the Railroad's trains or other property.

The Contractor shall consult the Railroad in order to determine the type of protection to ensure safety and continuity of Railroad traffic incident to the particular methods of operation and equipment to be used on the work.

The Railroad will furnish such qualified flaggers, signalmen, or protection men other than crossing watchmen, as may be required, to ensure complete protection of train operations and Railroad facilities. The need for this type of service will be determined on the basis of Railroad regulations and the Contractor's approved construction schedule. No work shall proceed without proper protection on the site. The providing of watchmen and guards, or any other precautionary and protective services by the Railroad, shall not relieve the Contractor from liability for payment of damages caused by or in consequence of the Contractor's operations.

All expenses incurred in connection with protection of Railroad facilities by Railroad employees will be borne by the Maryland Transportation Authority. Billings for such services or expense will be made directly to the Maryland Transportation Authority by the Railroad.



It shall be expressly understood that this Contract includes no work for which the Railroad is to be billed by the Contractor, and it shall be further understood that the Contractor is not to bill the Railroad for any work which it may perform, unless the Railroad gives written permission that such work be performed at the Railroad's expense.

Any work performed by the Railroad at the Contractor's request, other than protective services and work specifically designated in these Special Provisions, shall be paid for by the Contractor immediately upon presentation of the bills by the Railroad.

Final settlement by the Maryland Transportation Authority with the Contractor shall be contingent upon: (a) the Contractor showing proof that the Railroad's property has been cleared of all machinery, equipment, surplus materials, false work, rubbish, temporary buildings, and other property in a condition satisfactory to the Railroad; and (b) the Contractor showing proof that no bills are owed by the Contractor to the Railroad in connection with the work performed on this project.

The Contractor shall secure permission from the Railroad, in writing, for the erection of any temporary structures, scaffolding, rigging on, over, or adjacent to the Railroad's property. Forms for concrete, false work, and bracing on, or over the Railroad's property shall be approved by the Railroad with respect to any reduction of existing clearance. All work on or over the Railroad's property shall be approved by the Railroad with respect to any reduction of existing clearance. All work on or over the Railroad's property shall be performed under the supervision of both the Engineer and the Railroad.

Approved minimum temporary construction clearances from Railroad tracks are 22.00 ft. vertical from top of rail and 18.00 ft. horizontal from track centerline. Approval for clearances less than noted must be obtained by the Contractor through the Engineer from the Railroad and from the regulatory agency having jurisdiction over Railroad clearances in the State of Maryland before beginning any work involving such clearances.

The Contractor shall be held responsible to see that his employees enter upon Railroad or other property through points of access designated by the property owner. Operations within these properties shall be confined to the rights-of-way as shown on the drawings and as designated by the Engineer.

Should the Contractor require a temporary grade crossing of Railroad tracks, the Contractor shall be required to apply for and execute the standard private grade crossing agreement for each crossing required. Application for the crossing shall be made to the Railroad at least six weeks before the crossing is required. A letter size plan showing location and size of crossing should accompany the letter of application. The letter should state the purpose for which the crossing is needed and the expected life of the



crossing. The Contractor shall pay all construction, maintenance, removal, protection, and other costs. The roadbed shall be restored to its original condition.

The Contractor shall conduct its operations both on and off Railroad right-of-way so that no earth, mud, silt, or other foreign matter will be deposited on Railroad ballast or cause flooding or saturation of subgrade. In order to accomplish this, it may be necessary for the Contractor to construct temporary drainage facilities, temporary sheeting or take other precautionary action, such as nailing canvas or other similar materials to the ties to cover the ballast. The protective measures shall be performed by the Contractor at the Contractor's own expense in a manner satisfactory to the Railroad.

However, in addition to the aforementioned protective measures, if the Railroad track ballast does become fouled due to the Contractor's operations, the Railroad, with its own forces, will remove the fouled ballast and replace it with a clean ballast. The charges for this work will be billed against the Contractor by the Railroad.

The Contractor shall furnish and maintain during all construction work, such watchmen, lights, barricades, fences, and other appropriate protection as, in the opinion of the Railroad, shall be necessary for the protection of all persons having access to property and facilities of the Railroad.

Every bidder is required to ascertain from the Railroad its rules, regulations, and requirements and what, if any, delays that it shall be subjected to, or scheduled days when work would be permitted, in connection with the supporting of tracks, and in connection with other Railroad operations, and every bidder will be assumed to have included in its bid price, all costs and expenses and all risks of loss and damage to it, due to such delays, rules, regulations, and requirements.

Should any damage occur to Railroad property as a result of the Contractor's operations, the Railroad may repair such damage and perform any work for protection of its property it may deem necessary and the actual cost for such work shall be borne by the Contractor.

The Contractor will not be permitted to use Railroad personnel for the Contractor's purposes when such personnel are required at the immediate site of project construction by the Railroad solely for the safe operations of the Railroad.

Any approvals given by the Railroad will not be considered as a release from responsibility for any damage to the Railroad by the acts of the Contractor, its subcontractors, or those of the Contractor's or subcontractor's employees.

C. Shop and Working Drawings for Railroad Approval



Where the Contract Drawings or Specifications require that shop and/or working drawings are to be submitted for Railroad review and approval, such submission shall be as required above and modified herein.

Six (6) copies of shop and/or working drawings shall be submitted through the Engineer to the Railroad at least sixty (60) calendar days in advance of them being required for the work.

All working drawings submitted for Railroad approval shall be certified by a Professional Engineer registered in the area where the work is to be performed.

No work shall be performed until the working drawings are approved by the Engineer and the Railroad. Approval of the working drawings by the Engineer and the Railroad shall not relieve the Contractor's responsibility for errors in dimensions, elevations, or design calculations and for performance of the work in a safe manner without endangering the safety of the Railroad personnel, equipment, or the Contractor's workmen.

The working drawings shall clearly show all dimensions, sizes of members, types of materials, and all other pertinent information as may be required by the Engineer and the Railroad to permit proper checking for such working drawings. The Contractor shall also submit along with the working drawings, copies of the design calculations.

D. Insurance

The Contractor shall purchase and maintain for the length of the project the following insurance policies in addition to those required in the Specifications and in other sections of these Special Provisions.

1. Contractor's Public Liability and Property Damage Insurance:

Limits not less than Two Million Dollars (\$2,000,000.00) per occurrence for Bodily Injury and Two Million Dollars (\$2,000,000.00) per occurrence for Property Damage.

2. Contractor's Protective Public Liability and Property Damage Insurance:

If any part of the work is to be performed by a Subcontractor, the prime Contractor shall carry in the Contractor's own behalf, insurance of same limits as set forth in paragraph 1, above.

3. Railroad Protective Public Liability and Property Damage Insurance:



Maryland  
Transportation  
Authority

## SPECIAL PROVISIONS

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This policy shall name the respective "Railroad" as "The Insured" and shall be written on the form prescribed by the U.S. Department of Transportation, Federal Highway Administration, in the Federal Air Highway Program Manual, Volume 6, Chapter 6, Section 2, Subsection 2 Railroad-Highway Insurance Protection Required for Contractors.

Limits of liability shall be in the amount of Two Million Dollars (\$2,000,000.00) for bodily injury and property damage per occurrence with an aggregate of Six Million Dollars (\$6,000,000.00) per annual policy period.

The limits stated herein have been established after reviewing the work listed in the Contract. Should the Contractor be otherwise using railroad property (for example for a temporary grade crossing) it may be subject to other requirements. The Contractor is required to communicate with the Railroad and provide for complying with all of their requirements.

The original of policy 3. must be furnished to and approved by the Railroad.

For 1. and 2., Certifications are to be furnished to the Maryland Transportation Authority and to the Railroad on request. In all instances, the Contractor must furnish evidence to the Maryland Transportation Authority and Railroad that the insurance has been purchased and is in force until the Contract is completed and accepted. Contractor will not be permitted on Railroad property until the Insurance Policy(s) have been approved.

Policies, notices of cancellation or change, etc., are to be sent by the Contractor directly to the Engineering Officer of the Railroad. Contractor and the Contractor's insurance representatives must reconcile all policy requirements to the satisfaction of the Railroad and the Engineer.

### E. Measurement and Payment

Work on Railroad property during the life of the Contract and all incidental costs imposed on the Contractor due to the operations of the Railroad will not be measured for payment, but cost thereof shall be incidental to the lump sum cost proposal for the individual project site affected by the Railroad.

Costs of all Contractor's and Railroad insurance policies will be paid for under the Contingent Miscellaneous Repairs & Modifications item.



**GENERAL PROVISIONS  
GP-SECTION 1  
DEFINITIONS AND TERMS**

**GP 1.03 – ORGANIZATIONAL DEFINITIONS**

Revise the definitions of Administration to read as follows:

Administration – The word “Administration” shall mean the “Maryland Transportation Authority”.

Except for Office of Materials and Research, all references to the Maryland State Highway Administration’s offices and positions shall mean the Authority’s corresponding Engineering Divisions and positions such as Bridge, Traffic, Highway, and Environmental Sections.



**GENERAL PROVISIONS  
GP- SECTION 1  
DEFINITIONS AND TERMS**

**GP 1.05 - DEFINITIONS**

Add the following definitions:

**Highway Standards** - The official Book of Standards for Highway and Incidental Structures, edited by the State Highway Administration, with the latest incorporated revisions issued on or before the date of advertisement on the Contract.



**GENERAL PROVISIONS  
GP-SECTION 2  
BIDDING REQUIREMENTS AND CONDITIONS**

**GP 2.04 SITE INVESTIGATION**

Revise the paragraph to read as follows:

The Contractor acknowledges that it has investigated and satisfied itself as to the conditions affecting the work, including but not restricted to those bearing upon transportation, disposal, handling, and storage of materials; availability of labor, water, electric power, roads; uncertainties of weather, river stages, tides, or similar physical conditions at the site; and confirmation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the work. The Contractor further acknowledges that it has satisfied itself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as the information is reasonably ascertainable from an inspection of the site, including all exploratory INFORMATION IN POSSESSION OF THE STATE, as well as from information presented by the drawings and Specifications made part of this contract. Any failure by the Contractor to acquaint itself with the available information may not relieve it from responsibility for estimating properly the difficulty or cost of successfully performing the work. The State assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the State.



**GENERAL PROVISIONS  
GP-SECTION 2  
BIDDING REQUIREMENTS AND CONDITIONS**

**GP-2.06 PREPARATION OF THE BID**

GP9 **ADD:** After paragraph (a), the following.

The Contractor may elect to submit its bid on forms it has generated in the development of its bid. These may be submitted in lieu of the schedule of prices bid forms furnished by the Administration in the Invitation for Bids. These forms shall emulate the forms currently furnished by the Administration and, as a minimum, contain the following information:

- (1) State Contract No.;
- (2) State Item Nos.;
- (3) State's Proposed Quantities;
- (4) Description of Items;
- (5) Unit Price;
- (6) Total Cost of Each Item; and
- (7) Total Bid Amount.

The document shall be 8-1/2 x 11 inches, and oriented in a landscape format. The font size shall be no less than 10 point with horizontal lines dividing each item. Any addendum which revised items or quantities shall be noted on all affected schedule of prices sheets. Any special bid requirements that are noted in the schedule of prices shall also be listed on the form.

Should the Contractor elect to submit bids on the Contractor's own forms, the Contractor shall submit a sample of the form to the Administration at least two (2) weeks prior to the scheduled opening of bids. The use of Contractor generated forms shall be approved, in writing, prior to their use. If the Contractor's forms were previously approved in writing on another Administration project and have not changed, they need not be resubmitted for this project.



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Sample forms shall be submitted to:

Ms. Linda McGill  
Chief Procurement Officer  
Maryland Transportation Authority  
300 Authority Drive  
Baltimore, MD 21222



**GENERAL PROVISIONS  
GP-SECTION 2  
BIDDING REQUIREMENTS AND CONDITIONS**

**GP 2.23 - BID PROTESTS**

Section GP 2.23 of the General Provisions is supplemented as follows:

The Board of Public Works does not have the jurisdiction to consider protests relating to this solicitation or an award of this contract under this solicitation.

All protests relating to this solicitation, the selection, and/or award must be filed in writing with the Authority's Procurement Officer, within the time limitations set forth in COMAR 21.10.07 and 21.10.02. Bid protests shall be filed not later than 7 days after the basis for protest is known, or should have been known, whichever is earlier. Oral protests will not be considered.

The specific details of the protest procedures shall be followed by aggrieved actual or prospective bidders or offerors are contained in COMAR 21.10.



**GENERAL PROVISIONS  
GP SECTION 4  
SCOPE OF WORK**

**GP 4.10 - WARRANTY OF CONSTRUCTION**

GP 4.10 of the Standard Specifications is revised to read as follows:

Delete: The first paragraph in its entirety.

Insert: The following:

The Warranty as defined under paragraphs A through G in GP 4.10 "Warranty of Construction" shall apply to this Maryland Transportation Authority contract unless specified elsewhere in this Invitation for Bids.



**GENERAL PROVISIONS  
GP SECTION 5  
CONTROL OF WORK**

**GP 5.12 - FAILURE TO MAINTAIN ENTIRE PROJECT**

Delete Section GP 5.12 in its entirety

**Insert:** Revise the paragraph to read as follows:

Failure on the part of the Contractor, at any time, to RESPOND TO the provisions of GP 5.11 above, will result in the procurement officer immediately notifying the Contractor to comply with the required maintenance provisions. In the event that the Contractor fails to PROCEED WITH CORRECTIONS TO UNSATISFACTORY MAINTENANCE SO AS TO CONFORM TO THE PROVISIONS OF GP 5.11 within 4 hours of receipt of such notice, the procurement officer MAY NOTIFY THE CONTRACTOR TO SUSPEND ALL OTHER WORK ON THE CONTRACT UNTIL SUCH TIME AS THE UNSATISFACTORY MAINTENANCE IS CORRECTED. In the event that the Contractor fails to RESPOND TO unsatisfactory maintenance within 4 hours after receipt of such notice, the procurement officer will immediately proceed with adequate forces and equipment to maintain the project, and the entire cost of this maintenance will be deducted from monies due the Contractor ON THE NEXT MONTHLY ESTIMATE.



**GENERAL PROVISIONS  
GP SECTION 9  
PAYMENT**

**GP 9.05 LATE PAYMENTS**

**ADD the following:**

- (e) Payments will be made within thirty (30) days of the date when the Contract amount becomes due and payable or the date of receipt of a proper invoice, whichever is later. The State's failure to remit payment within forty-five (45) days from that date may entitle the Contractor to interest at the rate of 10 percent per annum beginning on the 31<sup>st</sup> day.



**TERMS AND CONDITIONS  
TC SECTION 4  
CONTROL OF WORK**

**TC 4.01 - SHOP PLANS AND WORKING DRAWINGS**

Section TC 4.01 of the Specifications is amended to add:

All shop plans and working drawings for this project shall be submitted to:

Maryland Transportation Authority  
Engineering Division  
300 Authority Drive  
Baltimore, MD 21222  
Mr. Abey Tamrat

The Contractor shall allow a minimum of four (4) weeks turn around time on all drawings from the date they are received by the Authority. All shop plans and working drawings shall be reviewed and approved by the Contractor prior to submitting for approval to the Maryland Transportation Authority and shall be submitted by the general Contractor only. No drawings sent to the Authority directly by subcontractors, fabricators, etc. will be accepted. Ten (10) sets of drawings shall be submitted for approval.

Acceptance of a material source by the Engineer does not constitute approval of the material as a substitute as an "equal". Submission of a material as an "or equal" must be done in accordance with the following paragraphs:

All shop drawings, regardless if "Submitted as Specified" or "Submitted as Equal to Specified," shall be furnished with complete, specific, detailed information from the manufacturer or supplier or the material or equipment the Contractor proposes to furnish, in which the requirements of the Specifications are clearly shown to be met. This shall include a point by point comparison with the detail requirements of the Specifications.

When any article is specified by trade name of manufacturer with or without the clause "or equal," it is intended to establish the quality of the article. If the Contractor proposes to use material or equipment of another manufacturer as an "or equal" to material or equipment specified, all shop drawings shall conform to the following requirements, conditions, and procedure:

1. Substitution of equipment or materials other than those specified will be considered, providing, in the opinion of the Engineer, such equipment or material



## SPECIAL PROVISIONS

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is equal to, or better than specified. The decision of the Engineer with respect to approval or disapproval of any material or equipment proposed to be substituted as an "or equal" is final. The Contractor shall have no claim of any sort by reason of such decision.

2. If the Contractor proposes to substitute materials or equipment as "or equal" to those specified, it shall be its responsibility to furnish, in addition to the information discussed above, a point by point comparison of the material or equipment specified under the Contract and that proposed to be substituted. The burden of responsibility in furnishing this information is with the Contractor.

If incomplete or irrelevant data is submitted as evidence of compliance with this section of the Specifications, the data will be returned and the request for approval will be denied.



**TERMS AND CONDITIONS  
TC SECTION 4  
CONTROL OF WORK**

**TC-4.02 FAILURE TO ADEQUATELY MAINTAIN PROJECT.**

16 **ADD**: To the existing paragraph.

Additionally, an appropriate deduction will be made from the Contractor's next progress estimate for each day or portion thereof that Maintenance of Traffic deficiencies exist, and will continue until the deficiencies are satisfactorily corrected and accepted by the Engineer. Any portion of a day will be assessed a full day deduction. The deduction will be equal to a prorata share of the lump sum price bid for Maintenance of Traffic or an amount prorated from the Engineer's estimate, whichever is more. The amount prorated will be the per diem amount established by using the working days (based upon calendar dates when required) divided into the total value of the bid item or the Engineer's estimate of that item, whichever is more.

The above noted deduction will be assessed on the next progress estimate if:

The Contractor does not take action to correct the deficiencies and properly assume the responsibilities of maintaining the project (as determined by the Engineer) within four (4) hours of receiving a notice to comply with the required maintenance provisions.

The deduction will be equal to the daily prorated share of the lump sum price bid for Maintenance of Traffic or \$ 1,000.00 per day, whichever is more for each day or portion thereof that the deficiencies exist, and will continue until the deficiencies and proper assumption of the required maintenance provisions are satisfactorily corrected and accepted by the Engineer. The amount of monies deducted will be a permanent deduction and are not recoverable. Upon satisfactory correction of the deficiencies, payment of the Maintenance of Traffic lump sum item will resume.



**TERMS AND CONDITIONS  
TC SECTION 4  
CONTROL OF WORK**

98 **ADD:** After TC 4.04

**TC-4.05 DISPUTE MEDIATION**

When a dispute arises out of or relates to the Contractor or breach thereof, and if the dispute can not be settled through negotiation or the partnering issue resolution process, either party may first elect to try in good faith to settle the dispute by non-binding mediation administered by a mutually agreed upon qualified mediator before proceeding with other dispute resolution procedures including litigation.



**TERMS AND CONDITIONS  
TC SECTION 5  
LEGAL RELATIONS AND PROGRESS**

**TC-5.01 INSURANCE.**

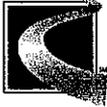
17 **DELETE:** The first three paragraphs under TC-5.01 in their entireties.

**INSERT:** The following.

The requirement of GP-7.14 "Liability Insurance" to submit Certificate of Insurance prior to starting work is modified for Administration Contracts to require the certificate of insurance to be submitted prior to the execution of the Contract.

The Contractor shall maintain in full force and effect third party legal liability insurance necessary to cover claims arising from the Contractor's operations under this agreement which cause damage to the person or property of third parties. The insurance shall be under a standard commercial general liability ("CGL") form endorsed as necessary to comply with the above requirements; or other liability insurance form deemed acceptable by the State. The State of Maryland shall be listed as an additional named insured on the policy. The limit of liability shall be no less than One Million Dollars (\$1,000,000.00) per occurrence/\$ One Million Dollars (\$1,000,000.00) general aggregate. The insurance shall be kept in full force and effect until all work has been satisfactorily completed and accepted. The policies shall be endorsed to provide thirty (30) days notice of cancellation or non-renewal to:

Director of Construction  
Maryland Transportation Authority  
300 Authority Drive  
Baltimore, Maryland 21222



**TERMS AND CONDITIONS**  
**TC SECTION 7**  
**PAYMENT**

29 **DELETE:** TC-7.02 PAYMENT ALLOWANCES FOR STORED MATERIALS in its entirety.

**INSERT:** The following.

**TC-7.02 PAYMENT ALLOWANCES FOR STORED MATERIALS.**

When the Contractor requests payment allowance for materials, the following terms and conditions shall apply:

- (a) For superstructure members delivered on the project site, an allowance of 100 percent of the material cost plus freight charges as invoiced may be made provided the cost does not exceed 90 percent of the Contract price of the applicable Contract item. The allowance will be based upon validated invoices or bills for material including freight charges, and a copy thereof shall be made a part of the documented records for the project.
- (b) For reinforcement steel, piling, pipe, traffic barrier, signs and sign assemblies, and other nonperishable material in storage on the project, but excluding aggregates, cement, seed, plants, fertilizer or other perishable items, an allowance of 100 percent of the invoiced cost of the material plus freight charges to the Contractor may be made provided the cost does not exceed 90 percent of the Contract price of the applicable Contract item. Such material shall be delivered and stock-piled at the project site, and have been tested by the Administration and found to have conformed to the Specifications or have been accepted under an approved certification program prior to the allowance.
- (c) No allowance will be made for fuels, form lumber, falsework, temporary structures or other materials of any kind which will not become an integral part of the finished construction.

No payment for stored material will be made if it is anticipated that the material will be incorporated into the work within thirty (30) days of the written request.

Only end product manufactured material or fully fabricated products that are awaiting installation or incorporation into the finished work are eligible for prepayment. Components, elements, or ingredients of a finished product are not eligible for prepayment.

- (d) Material for which an allowance is requested shall be stored in an approved manner in areas within the State of Maryland where damage is not likely to occur. If any of the stored materials are lost or become damaged in any manner, the Contractor shall



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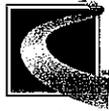
be responsible for repairing or replacing the damaged materials. The value of the lost or damaged material will be deducted from the Contractor's subsequent estimates until replacement has been accomplished. The request for allowances for any materials stored on private property within the State of Maryland shall be accompanied by a release from the owner and/or tenant of such property agreeing to permit the removal of the materials from the property without cost to the State of Maryland.

The material shall be clearly marked with the Administration's Contract number on individual units. If the material is normally shipped to the project in bundles or other forms of packaging, the Administration's Contract number shall be clearly marked or affixed to the package. When the material is not stored at the actual project site, the material shall be physically separated by fencing or equivalent barrier from other materials stored at the same site. The material shall be accessible to the Administration at all times.

When it is considered impractical to store materials on the actual project, the Engineer may approve storage areas in the vicinity of the actual project which will be considered at the project site.

When storage of the materials within the State of Maryland is not practical, approval shall be obtained from the Engineer for storage elsewhere. Storage of materials outside the State of Maryland will be subject to the conditions set forth in this provision and limited to materials exceeding Twenty-Five Thousand Dollars (\$25,000), which are designed and fabricated exclusively for use on a specific project.

- (e) Material for which payment has been made, either wholly or partially, shall not be removed from the approved location until such time that it is to be incorporated into the work unless authorized by the Engineer.
- (f) The Contractor shall submit a written request for payment to the Engineer at least two weeks prior to the estimate cutoff date established by the Engineer. The following items shall accompany the written request for payment:
  - (1) Consent of surety specifying the material type and the item(s) in which the material is to be used.
  - (2) Validated invoices with the signature of an officer of the company supplying the material showing actual cost.
  - (3) A notarized statement from the Contractor attesting that the invoices as submitted do not include charges or fees for placing, handling, erecting or any other charges or markups other than the actual material cost, sales tax(es), if applicable, and freight charges.
  - (4) Bills of lading showing delivery of the material. The request for allowances for any materials stored on property outside the State of Maryland shall be



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accompanied by a release from the owner or tenant of such property agreeing to permit verification by the Inspector that the material is stored at the approved location, and to permit the removal of the materials from the property without cost to the State of Maryland.

- (5) Inspection test reports, certifications and/or a written statement from the Inspector attesting to the inspection and approval of the material.

Upon receipt of the above by the Engineer and verification by the Inspector that the material is stored at the approved location, the Engineer will authorize payment.

- (6) A statement explaining why the material can not be stored on the project, if the Contractor is requesting to store material at a location other than the project site. The statement shall include the methods of storage, separation, and identification to be used by the Contractor. The Contractor shall provide a method of inventory control and withdrawal satisfactory to the Administration which shall be used by the Contractor to monitor materials not stored on the project.

- (7) A breakdown of the Contract line item bid unit price showing the relationship of the cost of the stored material to the costs of all other materials, labor, and components of the work included in the Contract line item unit price bid by the Contractor.

Upon receipt of the above by the District Engineer and verification by the Inspector that the material is stored at the approved location, the District Engineer will authorize payment.

The Contractor shall pay the material provider the amount shown on the invoice within ten (10) calendar days of receipt of payment from the Administration. Evidence of payment shall be provided to the Administration. Failure to make invoice payments as specified will be cause to deduct the monies from future estimates and/or deny future stored materials payment requests.

Copies of all pertinent data shall be made by the Contractor and distributed to the Inspector for retention as part of the documented records for the project.



**TERMS AND CONDITIONS**  
**TC SECTION 7**  
**PAYMENT**

**TC-7.03 FORCE ACCOUNT WORK.**

**DELETE:** TC-7.05 PROGRESS PAYMENTS Subsection (a) (3) Variable Retainage

**INSERT:** The following.

- (3) **VARIABLE RETAINAGE.** The Contract will be subject to a variable retainage based upon the Authority's performance evaluations of the Contractor.

Those qualifying may have retainage reduced upon request of the Contractor with consent of surety. This request must be processed through the Construction Manager. If at any time during the performance of the project, the evaluation of the Contractor changes, retainage reduction may be reconsidered.

Contractors with "A" evaluations for the last two years may be reduced from 5 percent to 2.0 percent upon request after 15 percent project completion. Project completion percentage will be based upon actual work completed (excluding monies paid for stored materials). An interim evaluation of the current project must be completed and must be an "A". Contractors with "A" evaluations for the last two years may petition to have all retainage at that point released upon completion of a significant milestone. Retainage will continue at 2.0 percent until the next milestone of completion of the contract.

Contractors with "B" evaluations or any combination of "A" and "B" evaluations for the last two years may be reduced from 5 percent to 2.5 percent at 50 percent project completion and remain at that level until released upon final payment. Project completion percentage will be based upon actual work completed (excluding monies paid for stored materials). An interim evaluation of the current project shall be completed and shall be an "A" or "B".

Contractors with "C" evaluations or any combination of "C" and "D" evaluations for the last two years will begin and remain at 5 percent for the life of the project. An interim evaluation of the current project shall be completed and shall be a "C" or better rating.

Contractors with a "D" evaluation for the last two years will begin at 5 percent. Project performance will be evaluated monthly. Should the contractor performance remain at the "D" level, to protect the State's interest 10% of the progress payment will be withheld until performance improves to a "C".

**New Bidders.** Contractors who have not been previously rated by the Authority may be eligible for a reduction in retainage. To be eligible, their past performance on highway and bridge work shall be documented by the government agency with



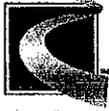
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whom they had a contract and their performance shall be documented on Authority form. All other Contractors who do not fit into the above criteria would require a 5 percent retainage throughout the life of the Contract.



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**CATEGORY 100  
PRELIMINARY**

**SECTION 100.01 - MAINTENANCE OF NAVIGATION AND COMPLIANCE WITH  
STATE AND FEDERAL REGULATIONS**

**100.01 GENERAL**

Note that the bridges to be repaired may be over navigable waters which are under the navigational jurisdiction of the U.S. Coast Guard, U.S. Department of Transportation with headquarters at the following address: Commander (AOWB) USCG Atlantic Area, 4th Floor, Federal Building, 431 Crawford Street, Portsmouth, Virginia 23704. The Contractor shall be responsible for full compliance with all laws, regulations and requirements of the U.S. Coast Guard, which may be applicable to any operations conducted.

All work shall be conducted so as to not to interfere with the free navigation of the waterways. The Contractor shall therefore arrange his work so that the structure is capable of passing marine traffic at all times.

The Contractor shall be responsible for obtaining any required permit from the Coast Guard should any of his equipment be located in the navigable waters.

The Contractor shall be responsible for, and make good any damage caused to any craft or any person on said craft, which damage or injury is attributable to acts of the Contractor.

Removed materials, scrap or waste material and debris shall not be disposed of in the surrounding waters. The obtaining of approved disposal areas is the responsibility of the Contractor.

Any removed materials, scrap or waste material or debris dropped into the surrounding waters inadvertently, shall be removed from the water and disposed of suitably.

**100.02 MEASUREMENT AND PAYMENT**

Payment for this item including obtaining Coast Guard permits will be paid for under the Contingent Miscellaneous Repairs & Modifications item.



**CATEGORY 100  
PRELIMINARY**

**SECTION 103 — ENGINEERS OFFICE**

**103.03 CONSTRUCTION.**

**DELETE:** 103.03.06 Microcomputer System for all Offices in its entirety.

**INSERT:** The following.

**103.03.06 Microcomputer System for all Offices.**

**(a) Desktop Unit.**

- (1) IBM compatible with an Intel Pentium 4 or AMD processor.
- (2) Minimum microprocessor speed of 3.4 GHz.
- (3) Minimum hard drive storage of 80 GB (gigabyte).
- (4) Minimum of 2.0 GB RAM (Random Access Memory).
- (5) Enhanced 101 key keyboard with wrist rest.
- (6) Super Video Graphics Accelerator (“SVGA”) with 16MB memory.
- (7) Modem 56K BPS, ITU V.92 compliant – required for remote dial-in to the computer to provide MCMS system administration.
- (8) Full Duplex Sound Card (Sound Blaster Pro & Windows Compatible).
- (9) Audio Speakers.
- (10) Mouse with mouse pad.
- (11) One CDRW/DVDRW combo drive. Min Speed = 48X.
- (12) One Parallel Port, One Serial Port, Two USB Ports.

**(b) Operating System.** Minimum Microsoft® Windows XP.

**(c) Video Monitor.** Color Super VGA monitor conforming to Energy Star requirements with a minimum screen size of 17-inch flat panel.



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**(d) Printer/Scanner.** HP (Hewlett-Packard) Photosmart C6180 All-in-One Inkjet Printer, 32 PPM, 4800x1200 DP, Color, 64MB, PC/Mac. Office jets and Bubble jets will not be accepted.

**(e) Software.**

(1) Microsoft® Office 2000/XP Professional for Windows™ or later.

(2) Antivirus software shall be installed and configured to perform an automatic update when the microcomputer system connects to the Internet.

**(f) Internet Access.** The microcomputer system shall be provided with unlimited DSL/Broadband or better Internet access approved by the Engineer.

**(g) Accessories.**

(1) Uninterruptible power supply ("UPS").

(2) Standard computer workstation with minimum desk space of 60 X 30 in. and a swivel type office chair, padded with arm rests.

(3) 8-1/2 X 11 in. xerographic paper to be supplied as needed.

(4) Toner or ink as needed for printer.

(5) Maintenance agreement to provide for possible down time.

(6) Physical security system to deter theft of computer components.

(7) Blank recordable CD-R media for re-writable CD-ROM drive to be supplied as needed.

(8) One – USB 2.0 Flash Drive (1GB of Memory).

**(h) Notes.**

(1) The microcomputer system shall be completely set up ready for use on or before the day the Engineer's Office is to be occupied.

(2) All software stated above shall be supplied on original disks with manuals and be retained in the construction field office for the duration of the Contract.



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- (3) If for any reason the system fails to operate, the system shall be replaced or repaired within 48 hours.
- (4) When the microcomputer system is no longer required, the Construction Management software system including original user/operator guide manuals, program disks, and all data files will be removed by the Engineer and delivered to the Area Engineer and become the property of the Authority. The remaining microcomputer system shall remain the property of the Contractor.

Type 'C' and Type 'D' Engineer's Office shall have two (2) complete microcomputer systems.



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**CATEGORY 100  
PRELIMINARY**

**SECTION 104 - MAINTENANCE OF TRAFFIC**

**104.01 TRAFFIC CONTROL PLAN (TCP)**

**104.01.01 DESCRIPTION**

**DELETE:** The forth paragraph sentence “Refer to contract documents for work restrictions” in its entirety.

**INSERT:** The following:

- 1) The work in this Contract affects the following roads and will require coordination with the Maryland Transportation Authority:
  - a) John F. Kennedy Memorial Highway (I-95 in Baltimore, Harford, and Cecil Counties)
  - b) Thomas J. Hatem Memorial Bridge (U.S. 40 in Harford and Cecil Counties)
  - c) Baltimore Harbor Tunnel Thruway (I-895 in Baltimore City and Baltimore, Anne Arundel, and Howard Counties)
  - d) Francis Scott Key Bridge (I-695 in Baltimore City and Baltimore and Anne Arundel Counties)
  - e) Intercounty Connector (Montgomery County & Prince George’s County);
  - f) William Preston Lane Jr. Memorial Bridge (U.S. 50 in Anne Arundel and Queen Annes Counties)
  - g) Governor Harry W. Nice Memorial Bridge (U.S. 301 in Charles County)
  - h) Fort McHenry Tunnel (I-95 in Baltimore City)

**AGENCY CONTACTS**

Pre-construction/Existing Contract Coordination

**Maryland Transportation Authority**

<b>Facility</b>	<b>Contact</b>	<b>Phone Number</b>
Francis Scott Key Bridge (I-695)	Mr. Charles Raycob Administrator	(410) 537-7513
John F. Kennedy Memorial Highway (I-95) &	Mr. John Lohmeyer Administrator-	(410) 537-1102



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Thomas J. Hatem Memorial Bridge (U.S. 40)	Northern Region	
Baltimore Harbor Tunnel Thruway (I-895)	Mr. Dave Roehmer Tunnel Administrator	(410) 537-1310
Fort McHenry Tunnel (I-95)	Mr. Dave Roehmer Tunnel Administrator	(410) 537-1310
William Preston Lane Jr. Memorial Highway (US 50/301)	Mr. Ken Cimino Administrator	(410) 295-8157
Governor Harry W. Nice Memorial Bridge	Mr. Gary Jackson Administrator	(301) 259-4870
Intercounty Connector	Mr. Ken Knutson	(410) 537-8372

Refer to Section SP 1-11 – Maintenance of Railroad Traffic for Railroad company contacts.

**Work Restrictions.** On Monday of each week, the Contractor shall provide the Engineer with a complete list of anticipated lane and shoulder closures for the following two weeks, allowing the Authority a minimum of fourteen (14) calendar days or ten (10) working days notification. The Engineer shall then notify the affected facilities, the Engineering Division’s Traffic Section and other appropriate offices. No lane closures shall be made without prior written approval of the Engineer in the form of an Authority lane/shoulder closure permit. The Authority is not responsible for lost workdays resulting from the Contractor failing to submit schedules or providing notification of maintenance of traffic requirements in a timely manner. Other contractors may be actively working in or around the vicinity of this project. The Contractor shall cooperate with and coordinate work activities with contractors in adjoining or overlapping work areas.

The Contractor is responsible for obtaining lane/shoulder closure or other Permits from all affected agencies that require permits for work on their right of way, including those listed in this Special Provision. The Contractor shall make contact with the representative from the affected agency, through the Project Engineer and provide a copy of all coordination correspondence to the Authority. Sufficient time shall be allowed for review and approval of the permit application.



**ALLOWABLE LANE CLOSURE SCHEDULES**

**BALTIMORE HARBOR TUNNEL**

Time of Day	Days of the Week	Allowed Closures
7:00 AM – 3:00 PM	Monday - Thursday	Southbound, South of I-295 Single Lane Closure
9:30 AM – 2:30 PM	Monday - Thursday	Southbound, North of I-295 Single Lane Closure
7:00 AM – 3:00 PM	Monday - Thursday	Northbound, South of I-295 Single Lane Closure
9:00 AM – 2:30 PM	Monday - Thursday	Northbound, North of I-295 Single Lane Closure
7:00 AM – 1:00 PM	Friday	Southbound, South of I-295 Single Lane Closure
9:30 AM – 1:00 PM	Friday	Southbound, North of I-295 Single Lane Closure
7:00 AM – 1:00 PM	Friday	Northbound, South of I-295 Single Lane Closure
9:30 AM – 12:00 PM	Friday	Northbound, North of I-295 Single Lane Closure
8:00 PM – 5:00 AM	Monday - Thursday	NB or SB Single Lane Closure
10:00 PM – 10:00 AM	Friday - Saturday	NB or SB Single Lane Closure
10:00 PM – 5:00 AM	Sunday	NB or SB Single Lane Closure
10:00 PM Friday – 10:00 AM Sunday	Friday - Sunday	*Continuous NB or SB Single Lane Closure

\*These closures are subject to the Administrators approval.

No lane closures are permitted the day before, the day after and on the following Holidays:

- New Years
- Good Friday
- Easter
- Memorial Day
- Independence Day
- Labor Day

No lane closures are permitted two days before, two days after and on the following Holidays:



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Thanksgiving  
Christmas

If a holiday falls on a Thursday, Friday or Monday, no closures will be allowed during that weekend.

**BALTIMORE HARBOR TUNNEL (BHT) – TUNNEL BORE CLOSURES**

Time of Day	Days of the Week	Allowable Closures
8:30 PM – 4:30 AM	Monday - Thursday	Northbound or Southbound

Maintenance of Traffic for BHT tunnel bore closures are furnished and installed by MdTA maintenance personnel.

**FORT McHENRY TUNNEL (FMT) – ROADWAY**

Time of Day	Days of the Week	Allowed Closures
9:00 AM – 2:30 PM	Monday - Thursday	Southbound, South of I-395 Single Lane Closure
9:30 AM – 2:30 PM	Monday - Thursday	Southbound, North of I-395 Single Lane Closure
9:30 AM – 2:30 PM	Monday - Thursday	Northbound, South of I-395 Single Lane Closure
7:00 AM – 2:30 PM	Monday - Thursday	Northbound, North of I-395 Single Lane Closure
9:00 AM – 1:00 PM	Friday	Southbound, South of I-395 Single Lane Closure
9:30 AM – 1:00 PM	Friday	Southbound, North of I-395 Single Lane Closure
9:30 AM – 1:00 PM	Friday	Northbound, South of I-395 Single Lane Closure
7:00 AM – 1:00 PM	Friday	Northbound, North of I-395 Single Lane Closure
7:30 PM – 5:00 AM	Monday - Thursday	Southbound, South of I-395 Single Lane Closure
7:00 PM – 5:00 AM	Monday - Thursday	Southbound, North of I-395 Single Lane Closure
7:30 PM – 5:00 AM	Monday - Thursday	Northbound, South of I-395 Single Lane Closure
7:30 PM – 7:00 AM	Monday - Thursday	Northbound, North of I-395 Single Lane Closure
9:00 PM – 9:00 AM	Friday & Saturday	NB & SB Single Lane



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		Closure
9:00 PM – 5:00 AM	Sunday	Northbound, South of I-395 & SB Single Lane Closure
9:00 PM – 7:00 AM	Sunday	Northbound, North of I-395 Single Lane Closure
9:30 PM – 5:00 AM	Sunday - Thursday	NB & SB Double Lane Closure – 4 Lane Section
10:30 PM – 5:00 AM	Sunday - Thursday	NB & SB Double Lane Closure – 3 Lane Section
10:00 PM – 9:00 AM	Friday - Saturday	NB & SB Double Lane Closure – 4 Lane Section
10:30 PM – 8:00 AM	Friday - Saturday	NB & SB Double Lane Closure – 3 Lane Section
11:00 PM – 5:00 AM	Monday - Thursday	Triple Lane Closure – 4 lane Section

**FORT McHENRY TUNNEL (FMT) – TUNNEL BORE CLOSURES**

Time of Day	Days of the Week	Allowed Closures
8:00 PM – 5:00 AM	Monday - Thursday	I-95 Northbound
7:00 PM – 5:00 AM	Monday - Thursday	I-95 Southbound

Maintenance of Traffic for FMT tunnel bore closures are furnished and installed by MdTA maintenance personnel. Only one bore in each direction may be closed at any given time.

No lane/shoulder closures are permitted 2 hours before, during or 2 hours after a stadium event.

No lane closures are permitted the day before, the day after and on the following Holidays:

- New Years
- Good Friday
- Easter
- Memorial Day
- Independence Day
- Labor Day

No lane closures are permitted two days before, two days after and on the following Holidays:

- Thanksgiving
- Christmas



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If a holiday falls on a Thursday, Friday or Monday, no closures will be allowed during that weekend.

**FRANCIS SCOTT KEY BRIDGE**

TIME OF DAY	DAYS OF THE WEEK	ALLOWED CLOSURES
9:00 A.M. – 3:00 P.M.	Monday – Friday	Single Lane Closure
8:00 P.M. – 5:00 A.M.	Monday – Friday	Single Lane Closure
8:00 P.M. – 5:00 A.M.	Friday to Monday	Single Lane Closure

**GOVERNOR HARRY W. NICE MEMORIAL BRIDGE**

TIME OF DAY	DAYS OF THE WEEK	ALLOWED CLOSURES
9:00 AM – 3:00 PM	Monday – Thursday	Single Lane Closure
9:00 AM – 12:00 Noon	Friday	Single Lane Closure
8:00 PM – 5:00 AM	Monday - Thursday	Single Lane Closure
10:00 PM – 5:00 AM	Sunday	Single Lane Closure

**JOHN F. KENNEDY MEMORIAL HIGHWAY**

TIME OF DAY	DAYS OF THE WEEK	ALLOWED CLOSURES
Continuous	Monday - Sunday	Shoulder Closure
9:00 A.M. – 3:00 P.M.	Monday – Thursday	Single Lane Closure
7:00 P.M. – 5:00 A.M.	Monday – Thursday in three lane sections	Single Lane Closure Northbound
9:00 P.M. – 5:00 A.M.	Monday – Thursday in four lane sections	Single Lane Closure Northbound
7:00 P.M. – 5:00 A.M.	Monday – Thursday	Single Lane Closure Southbound
Thanksgiving through New Years 9:00 P.M. – 5:00 A.M.	Monday – Thursday south of the Little Gunpowder River	Single Lane Closure Southbound
9:00 A.M. – 12:00 Noon	Friday	Single Lane Closure
9:00 P.M. – 5:00 A.M.	Monday – Thursday in three lane sections	Double Lane Closure Northbound
11:00 P.M. – 5:00 A.M.	Monday – Thursday in four lane sections	Double Lane Closure Northbound
9:00 P.M. – 5:00 A.M.	Monday – Thursday	Double Lane Closure Southbound



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Thanksgiving through New Years 10: 00 P.M. – 5:00 A.M.	Monday – Thursday south of the Little Gunpowder River	Double Lane Closure Southbound
Midnight – 5:00 A.M.	Monday – Thursday in four lane sections	Triple Lane Closure Northbound
11:00 P.M. – 4:00 A.M.	Monday – Thursday in four lane sections	Triple Lane Closure Southbound

**THOMAS J. HATEM MEMORIAL BRIDGE**

TIME OF DAY	DAYS OF THE WEEK	ALLOWED CLOSURES
9:00 A.M. – 3:00 P.M.	Monday – Thursday	Single Lane Closure
7:00 P.M. – 5:00 A.M.	Monday – Thursday	Single Lane Closure

**WILLIAM PRESTON LANE, JR. MEMORIAL BRIDGE**

Work must be coordinated with ALL on-going Bay Bridge project including LB 378-000-006R2. All lane closure requests must be coordinated and approved by the Engineer and the LB 378-000-006R2 (Phase II Re-decking, see Contract Details below) Construction Manager. No additional payment for delays due to late submission of lane closure schedules or conflicts with other work or special events will be allowed. Available westbound Bay bridge closures for 2009 & 2010 are included in the Proposal Book for informational purposes only.

**LB 378-000-006R2** (Deck Replacement of Westbound Suspension and Through Truss Spans and Miscellaneous Repairs):

The scope of this project includes the following items:

- Replacing the concrete deck and steel railing in the suspension and through truss spans.
- Rehabilitating the existing steel railing in deck truss spans 35-43 and on the southwest end of the bridge
- Replacing and/or modifying the bridge deck joints
- Installing an acoustic monitoring system in the suspension spans of the eastbound bridge
- Miscellaneous structural repairs
- Repairing the timber ferry slip at the west approach of the eastbound bridge
- Painting portions of the structural steel of the westbound bridge

**LB 378-000-006R2** Contract is expected to be completed by November, 2010.



No lane closures shall be made without prior written approval of the project Engineer in the form of an Authority lane/shoulder closure permit or the Bridge Administration.

**ALLOWABLE LANE CLOSURE SCHEDULES**  
**Bay Bridges\***

<b>TIME OF DAY</b>	<b>DAYS OF THE WEEK</b>	<b>ALLOWED CLOSURES</b>
9:00 A.M. – 2:30 P.M.	Monday through Thursday (5.5 Hours Per Day)	Single Lane Closure (East or Westbound)
10:00 P.M. – 5:00 A.M.	Monday Nights to Wednesday Nights (7 Hours Per Night)	Single Lane Closure (East or Westbound)

\* Available westbound Bay bridge closures for 2009 & 2010 are included in the Proposal Book for informational purposes only.

Work is not permitted on the day before, the day of, and the day after the Holidays indicated below on all facilities. For detailed Bay bridge holiday closure restrictions, see table below:

- New Year’s Day, January 1
- Easter Weekend
- Memorial Day, the last Monday in May (Including that Weekend)
- Independence Day, July 4
- Labor Day, the first Monday in September (Including that Weekend)
- Thanksgiving Day, the fourth Thursday in November, including Friday through Monday
- Christmas Day, December 25
- 

The Engineer reserves the right to modify the methods of traffic control or working hours as specified in the Contract Documents. Any request from the Contractor to modify the work restrictions shall require written approval from the Engineer at least 72 hours prior to implementing the change. The Contractor shall submit a copy of the original work restrictions with the written request.

As directed by the Engineer, temporary lane and shoulder closures will not be permitted during periods of falling precipitation, in heavy fog or otherwise poor visibility, or in the event of emergencies such as serious traffic accidents or unusually severe traffic congestion. In the event that a temporary lane or shoulder must be reopened as directed by the Engineer or authorized Authority staff, the Contractor shall evacuate all equipment, materials and personnel from the lane within thirty (30) minutes.



- 149 **ADD:** The following after the last paragraph, “Any monetary savings...and the Administration.”

When closing or opening a lane on freeways, expressways, and roadways with posted speed  $\geq$  45 mph, a work vehicle shall be closely followed by a protection vehicle (PV) during installation and removal of temporary traffic control devices. The PV shall consist of a work vehicle with approved flashing lights, a truck-mounted attenuator (TMA) with support structure designed for attaching the system to the work vehicle, and arrow panel (arrow mode for multilane roadways and caution mode on two-lane, two-way roadways) The work vehicle size and method of attachment shall be as specified in the TMA manufacture’s specification as tested under NCHRP Test Level 3.

When a temporary lane or shoulder closure is in effect, work shall begin within one hour after the lane is closed. Any delay greater than one hour with no work in progress shall require the Contractor to remove the lane closure at no additional cost to the Administration. The Contractor's Traffic Manager shall attend Pre-Construction and Pre-Paving Meetings and shall discuss traffic control and the Traffic Control Plan including procedures to be implemented for lane closures.

All closures shall be in conformance with the approved TCP and under the direction of the Contractor's Certified Traffic Manager and the Engineer.

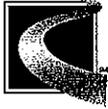
Workers and equipment, including temporary traffic control devices needed for setting up a lane closure or restriction, are prohibited in the lane or shoulder to be closed or restricted before the time permitted in the Contract work restrictions unless otherwise noted below or as approved by the Engineer.

Temporary traffic control devices to be used for lane/shoulder closure may be placed on the shoulder of the roadway by workers no earlier than 15 minutes prior to actual time lane/shoulder closure or restriction is permitted. Temporary traffic signs may be displayed to traffic at this time.

Workers shall not enter a lane open to traffic. Workers may be present on shoulders to prepare for lane closure setup no earlier than 15 minutes prior to actual time lane/shoulder closure or restriction is permitted.

All temporary lane or shoulder closures shall be restored at the end of the closure period and no travel lane shall be reduced to less than 11 ft. Prior to opening the closed lane or shoulder, the Contractor shall clear the lane or shoulder of all material, equipment, and debris.

Failure to restore full traffic capacity within the time specified will result in a deduction



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being assessed on the next progress estimate in conformance with the following. This is in addition to the requirements specified in TC-4.02.

ELAPSED TIME, MINUTES	DEDUCTION
1 - 5	\$ 1,000.00
Over 5	\$ 75.00 per Minute (In addition to the Original 5 minutes)

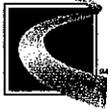
**104.01.04 MEASUREMENT AND PAYMENT.**

**INSERT:** The following:

Measurement and payment will be made at the Contract unit days for Single Lane Closure, Double Lanes Closure, and Shoulder Lane Closure. The payment will be full compensation for all material, labor, traffic manager, equipment, tools, and incidentals necessary to complete the work. The cost shall include all required equipment and setups shown on the maintenance of traffic standards as well as removal of all traffic control setups.

MdTA Operations team will provide Maintenance of Traffic for tunnel closures.

A unit day shall consist of any approved usage within a 24 hour calendar day period. Each item will be paid for only once per unit day, regardless of how many times it is used, located, or relocated.



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**SPECIAL PROVISIONS**  
113 — DIGITAL CAMERA

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**CATEGORY 100**  
**PRELIMINARY**

**SECTION 113 — DIGITAL CAMERA**

**113.01 DESCRIPTION.** This work shall consist of furnishing a new or like new digital camera with a Color Inkjet Printer for use by Administration personnel. The digital camera and printer shall be delivered to the Engineer at the time of the Notice to Proceed. They shall remain operational and not be returned to the Contractor until final acceptance of the entire project, in conformance with GP-5.13.

**113.02 MATERIALS.**

(a) **Digital Camera.** The digital camera shall meet the following requirements and be furnished with the specified accessories.

- (1) Windows 2000, ME, XP compatible operating system
- (2) Photo Suite, Photo Deluxe, Picture Works, Photo Shop, or similar Photo Managing Software
- (3) 8.0 megapixel image resolution (minimum)
- (4) 3X optical zoom (minimum)
- (5) Two (2) sets of rechargeable batteries
- (6) SmartMedia Card or memory stick (512 MB minimum)
- (7) Pop-up or built-in flash modes
- (8) All items required for quick downloading
- (9) Auto-quick focus
- (10) Lens Cover, Shoulder Strap, and Carrying Case
- (11) AC adapter and Battery Charger

(b) **Color Inkjet Printer.** The printer shall conform to the following minimum requirements;

- (1) Resolution of 2400 x 1200 DPI (dots per inch).
- (2) Print speed of 17 PPM (pages per minute) for black and white and 13 PPM for color.
- (3) Memory 8 MB.
- (4) Duty cycle of 5,000 pages/month.



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**SPECIAL PROVISIONS**  
113 — DIGITAL CAMERA

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Office-jets and Bubble-jets will not be accepted.

**113.03 CONSTRUCTION.** Not applicable.

**113.04 MEASUREMENT AND PAYMENT.** The digital camera will be measured and paid for at the Contract unit price per each. If the digital camera or printer becomes defective, is stolen, or for any other reason does not function as intended, it shall be replaced with an approved camera or printer at no additional cost to the Administration. A nonfunctioning or stolen camera or printer shall be replaced within eight hours after the Engineer notifies the Contractor.

Ownership of the camera and printer will remain with the Contractor. The Administration assumes neither responsibility nor liability for the condition of the camera when returned.



**CATEGORY 400  
STRUCTURES**

**SECTION 400.01 LABOR FOR STRUCTURAL REPAIRS**

**400.01.01 DESCRIPTION.** This work shall consist of providing labor in each of the following labor classification items. Unless otherwise specified within these Contract Documents, these rates only apply to labor supplied by the prime Contractor.

- (a) **Skilled Labor.** This item includes all workers that are not a Bridge Repair Foreman, Welder, Electrician, Electrician's Helper or Field Superintendent. These workers shall be skilled laborers as defined by the U.S. Department of Labor such as carpenters, concrete finishers, operators of complex heavy power equipment including cranes and tug boats, structural steel and reinforcing steel iron workers, etc., or as agreed upon by the Engineer in writing. These workers shall be able to perform other duties as necessary to complete the project. This item shall include all transportation costs for the skilled laborers. This item shall also include all small tools as defined in the Small Tools portion of the Notice to Contractor included in this Invitation for Bids.
- (b) **Bridge Repair Foreman.** This is for a Bridge Repair Foreman and shall include a heavy duty truck to be used for transporting workers, materials, and equipment. This worker shall have experience as a bridge repair foreman. This item shall be used for individuals serving in the capacity of a bridge repair foreman or for workers who provide technical advice for repairs when solicited by the Engineer. The heavy duty (up to and including 1 ton rating) truck included in this item shall be outfitted with a hitch capable of towing 5000 lb. The heavy duty truck included in this item includes all trucks having a bed length of up to and including 10 ft regardless of the cab's configuration (conventional or crew) and the bed's configuration (i.e. standard pickup bed, flat bed, utility truck bed, stake body bed, etc.).
- (c) **Welder.** This is for a Maryland State Certified Welder and shall include all equipment (welding machine, leads, hot box, welding shields, grinders, etc.) necessary to perform field welding work. This item shall also include all transportation costs for the welder and all equipment.
- (d) **Electrician.** This item includes an electrician and shall include all transportation costs for the electrician and all standard electrician's tools, materials, and equipment. This worker shall be a licensed Master Electrician.
- (e) **Electrician's Helper.** This item includes a skilled worker performing electrical work under the direct supervision of a licensed Master Electrician and shall include all transportation costs for the electrician's helper and all standard electrician's tools, materials, and equipment.
- (f) **Control System Expert.** This item includes a control system expert and shall include all transportation costs for the expert and all expert's standard tools, materials, and equipment. The Control System Expert shall have experience in providing and troubleshooting electrical control systems and components for bascule bridges including relay logic control systems with flux vector control of vector duty motors. Such experience shall be demonstrated by identifying a minimum of five (5) movable bridges for which the control system expert has performed similar work."



- (f) **Machine Shop/Fabrication Shop Time.** This item includes machinists, fabricators, and welders working (including preparing shop drawings) in a machine or fabrication shop. This item includes everything (machines, equipment, etc.) except materials required to complete all machine shop/fabrication shop work.
- (g) **Field Superintendent.** If more than one construction crew is working, the Contractor shall provide a full time Field Superintendent who will act as the Contractor's liaison with the Engineer. The Field Superintendent shall be experienced in bridge construction work and is subject to the approval of the Engineer.
- (h) **Boat Captain** -- This is for a Boat Captain and shall include a 16 foot minimum size boat.

**SMALL TOOLS.** In conformance with TC-7.03, small tools are considered to be any equipment with a new purchase price of under One Thousand Dollars (\$1,000.00). In addition, each of following pieces of equipment will be considered to be small tool, regardless of the new purchase price:

- a) Hand held cut-off saws, all sizes
- b) Oxygen acetylene torches, all sizes
- c) Chain saws, all sizes
- d) Mag drills, all sizes
- e) Impact wrenches, all sizes
- f) Hammer drills, all sizes
- g) Electrical Generators, 5 KW and under

**400.01.02 MATERIALS.** Not applicable.

**400.01.03 CONSTRUCTION.** Not applicable.

**400.01.04 MEASUREMENT AND PAYMENT.** All labor used by the Contractor, as directed by the Engineer, will be paid for at the Contract unit prices that include hourly wage, overhead, small tools, all fees and profit, etc. No "add-on" will be made to the amount.

Overtime will not be permitted without the Engineer's approval. The typical workweek is Monday through Friday from 7:00 am to 3:30 pm unless otherwise directed by the Engineer. When approved by the Engineer, all labor will be paid overtime at the rate of time and a half for all hours worked on this Contract in excess of 40 hours in any one pay week (Monday through Sunday) and for work performed on legal holidays. For the purpose of this Contract, legal holidays include New Years Day, Memorial Day, July 4<sup>th</sup>, Labor Day, Thanksgiving Day and Christmas Day. All small tools shall be included in the hourly rate for each type labor used. The crew used each day will be subject to prior approval by the Engineer.

On days when work is canceled by the Engineer for the convenience of the Administration after the Contractor's personnel have reported to the job site or when work is canceled for rain or snow after the Contractor's personnel have reported to the job site, the Contractor will be paid a minimum of 2 hours for each approved worker present.



On days when the Engineer cancels all work due to the Contractor's manpower or equipment deficiencies, the Contractor shall receive no payment whatsoever, including travel time.

On days when work has been performed for 1 hour or more and is then shutdown by the Engineer due to the Contractor's manpower or equipment deficiencies, the Contractor will be paid only for those hours actually worked up to the time of shutdown plus applicable travel time for each approved worker present.

**Skilled Labor** will be measured and paid for at the Contract unit price per hour and shall include all transportation costs for the skilled laborer.

**Bridge Repair Foreman** will be measured and paid for at the Contract unit price per hour. The payment will include full compensation for the use, maintenance, and operating costs of a heavy duty truck to be used for transporting workers, materials, and equipment.

**Welder** will be measured and paid for at the Contract unit price per hour for the actual hours worked performing welding. Only Maryland State Certified Welders will be paid under this Welder item. The payment will be full compensation for the welder and all equipment necessary to perform the work. This item will also include all transportation costs for the welder and all equipment.

**Electrician** will be measured and paid for at the Contract unit price per hour and shall include all transportation costs for the electrician and all standard electrician's tools, materials, and equipment.

**Control System Expert** will be measured and paid for at the Contract unit price per hour and shall include all transportation costs for the expert and all standard expert's tools, materials, and equipment.

**Electrician's Helper** will be measured and paid for at the Contract unit price per hour and shall include all transportation costs for the electrician's helper and all standard electrician's tools, materials, and equipment.

**Machine Shop/Fabrication Shop Time** will be measured and paid for at the Contract unit price per man-hour, which shall include hourly wages for labor, equipment, overhead, fees, and profit. No add-ons will be made to the amount. Only actual hours worked will be paid. Minimum hours (2, 4, or 8 hours) shall not apply to this item.

**Boat Captain including 16 foot minimum size boat** will be measured and paid for at the Contract unit price per hour. The payment will be full compensation for the Boat Captain and the use, maintenance, and operating costs of a boat to be used, and materials, and equipment.

**Field Superintendent** will not be measured but the cost will be incidental to the pertinent labor items.



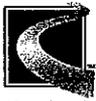
**CATEGORY 400  
STRUCTURES**

**SECTION 400.02 - EQUIPMENT FOR STRUCTURAL REPAIRS**

**400.02.01 DESCRIPTION.** This work shall consist of providing the following equipment for structural repairs:

- a) **Flatbed Truck** – (18 to 20 Ft. Bed). This truck shall have a stake body bed configuration with a cargo bed length measuring from 18 to 20 ft., inclusive. This truck shall be used only when needed for the purpose of hauling materials and equipment that can not be hauled in the Forman's heavy duty truck. This truck shall not be used for the sole purpose of transporting personnel.
- b) **Dump Truck, Single Axle** - 25 000 lb GVW (4 to 9 CY)
- c) **Air Compressor, 160 to 185 cfm.** This shall include 100 ft. of air hose appropriately sized to fit the compressor.
- d) **Portable Light Tree.** Four lamps minimum, 25 feet minimum height.
- e) **Air Hand Held Chipping Hammer,** (25 lb. or under).
- f) **Vacuum Shrouded Power Tool.** The vacuum shrouded power tool shall be a HEPA vacuum power tool capable of removing lead paint. All types of shrouded power tool attachments used to remove paint and clean steel shall be used to clean the existing steel to the required cleanliness.
- g) **Sectional Barges, Push Boat, Work Boat and Aerial Lift.** When required and approved by the Engineer, the Contractor shall provide for the following equipment:
  - i. Four (4) 40 ft x 10 ft sectional barges that can be connected together.
  - ii. A push boat capable of handling all four barges connected together. The operator of the push boat will be paid at the Contract unit price for Skilled Labor.
  - iii. A work boat capable of transporting personnel, small tools, and Administration personnel to and from the work site as necessary.
- h) **A 40 ft telescopic boom self-propelled aerial lift** which is kept on one of the barges.

The Engineer and the Contractor will agree upon appropriate sizes of these pieces of equipment.



**400.02.02 MATERIALS.** Not applicable.

**400.02.03 CONSTRUCTION.** Not applicable.

**400.02.04 MEASUREMENT AND PAYMENT.** All equipment used by the Contractor, as directed by the Engineer, will be paid for at the Contract unit prices and shall include the use, maintenance and operating costs excluding the operator unless otherwise stated herein. No "add-on" will be made to the amount.

The prices for equipment shall include all bits, blades, fuel, points, etc. necessary for the efficient operation of the particular piece of equipment. Compensation will only be made for the above mentioned items which are expended performing work under this contract.

The daily rate, weekly rate, and monthly rate shall be bid based on a normal work day of 8 hours/day, 5 days (40 hours)/week, and 20 days/month. For equipment items bid on an hourly rate, payment will only be made for the actual hours used at the Contract hourly rate. Payment beyond the first 8 hours/day will be based on the Contract hourly rate for that piece of equipment. For equipment items bid on a daily unit, payment for each hour the equipment is used beyond the first 8 hours will be based on the Contract daily rate for that piece of equipment divided by eight. For equipment items bid on a weekly or monthly unit, payment for equipment used beyond the week or month will be prorated or paid to the nearest unit of payment, whichever is lower. For example, payment for one week and three days will be paid for as two weeks or one week plus the daily rate for three days, whichever is less.

Bid equipment paid on an hourly basis will be paid for actual hours used plus standby time up to 8 hours. Exceptions to this policy:

- (a) When the Contractor is limited in the work hours due to Administration imposed restrictions (such as allowing only 6 hours of lane closures during a normal 8 hour work shift). In this case, bid items that would have been used all day will be paid for a full 8 hours even though actual work hours are less than 8 hours.
- (b) Flatbed trucks conforming to the bid item, when required for the job, will be paid the same number of hours that the skilled laborers are paid.

Bid equipment will receive standby time on workdays when the equipment is not used only when previously approved by the Engineer. The Engineer's decision will be based on the economics of paying standby time versus paying to demobilize/remobilize a piece of equipment when needed.

Standby time paid for approved bid equipment not used shall be 8 hours per day for each workday. Standby rate shall be 50 percent of the Contract unit bid price. Standby rates shall not exceed 8 hours per day. Standby rates shall not be paid on days when no work is performed at the job site.



On days when work is canceled by the Engineer for the convenience of the Administration after the Contractor's personnel have reported to the job site or when work is canceled for rain or snow after the Contractor's personnel have reported to the job site, the Contractor will be paid a minimum of 2 hours for each approved piece of equipment. No standby time will be paid for this situation. For equipment items bid on a daily unit, payment for each hour the equipment is used will be based on the Contract daily rate for that piece of equipment divided by eight.

On days when the Engineer cancels all work due to the Contractor's manpower or equipment deficiencies, the Contractor shall receive no payment whatsoever, including travel time and standby time.

On days when work has been performed for 1 hour or more and is then shut down by the Engineer due to the Contractor's manpower or equipment deficiencies, the Contractor will be paid only for those hours actually worked up to the time of shutdown plus applicable travel time for each approved piece of equipment. For equipment items bid on a daily unit, payment for each hour the equipment is used will be based on the Contract daily rate for that piece of equipment divided by eight. There will be no 2 hour minimum payment or standby time payment for this situation.

**Flatbed Truck** – (18 to 20 Ft. Bed) will be measured and paid for at the Contract unit price per hour.

**Dump Truck, Single Axle** (25,000 lb. GVW – 4 to 9 CY) will be measured and paid for at the Contract unit price per hour.

**Heavy Duty Pickup Truck** will not be measured for payment. This item will be part of other pertinent pay items.

**Air Compressor** (160 to 185 cfm) will be measured and paid for at the Contract unit price per hour.

**Portable Light Tree.** Four lamps minimum, 25 feet minimum height will be measured and paid for at the Contract unit price per hour.

**Air Hand Held Chipping Hammer** (25 lb. or under) will be measured and paid for at the Contract unit price per hour.

**A 40 ft telescopic boom self-propelled aerial lift** which is kept on one of the barges will be measured and paid for at the Contract unit price per hour.

**Sectional Barges, Push Boat, Work Boat and Aerial Lift.** will be measured and paid for at the Contract unit price per month.



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**Vacuum Shrouded Power Tool** will be measured and paid for at the Contract unit price per hour.



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**CATEGORY 400  
STRUCTURES**

**SECTION 400.03 – MATERIALS FOR STRUCTURAL REPAIRS**

**400.03.01 DESCRIPTION.** This work is to provide for materials in the work that are necessary to perform the structural repairs. Refer to TC-7.03.

**400.03.02 MATERIALS.** All materials used for structural repairs shall be from an approved source or as approved by the Engineer. Contractors who own or control a materials company shall not be precluded from using these companies unless the use of these companies results in prices that are not competitive with the supply industry.

**400.03.03 CONSTRUCTION.** Not applicable.

**400.03.04 MEASUREMENT AND PAYMENT.** Payment for this item is included in the Contingent Miscellaneous Repairs and Modifications item. There is no guarantee that any or all of this item will be used during the term of the Contract.

Payment for materials will be in accordance with Section TC-7.03 (b) of the Standard Specifications.

The Contractor will be allowed 10% (not 18%) of the actual cost of materials, tax, and applicable transportation charges for materials and supplies incorporated in the work.

The Contractor will be allowed 5% (not 18%) of the actual cost of materials, tax, and applicable transportation charges for materials and supplies not incorporated in the work.



**CATEGORY 400  
STRUCTURES**

**SECTION 400.04 - SPECIALIZED EQUIPMENT FOR STRUCTURAL REPAIRS**

**400.04.01 DESCRIPTION.** This work is to provide for Specialized Equipment necessary to perform structural repairs. Specialized Equipment is defined as equipment not having a specific item in the Contract and not considered to be small tools as defined in Section 400.01.01.

This item will only be used if necessary and will not be used without the approval of the Engineer.

**400.04.02 MATERIALS.** Not applicable.

**400.04.03 CONSTRUCTION.** Not applicable.

**400.04.04 MEASUREMENT AND PAYMENT.** Payment for this item is included in the Contingent Miscellaneous Repairs and Modifications item. There is no guarantee that any or all of this item will be used during the term of the Contract.

Payment for Specialized Equipment for Structural Repairs will be in conformance with TC-7.03, with the following exceptions:

- (a) Should specialized equipment be required, Contractors who have subsidiary equipment rental companies may not rent equipment from those companies unless their prices are competitive with their prevailing equipment rental rates being paid in the area where work is being performed.
- (b) Should be Contractor desire to rent from the associated company, the Engineer will require the Contractor to provide documentation that the prices paid for equipment rental are competitive with the equipment rental industry. This documentation shall include at least three (3) price quotations from rental companies. All documentation shall be presented to the Engineer before the equipment is delivered to the job site.



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**CATEGORY 400  
STRUCTURES**

**SECTION 400.05 – MISCELLANEOUS REIMBURSABLE EXPENSES**

**400.05.01 DESCRIPTION.** To provide for miscellaneous reimbursable expenses throughout the term of the Contract, such as Railroad insurance and work required to maintain navigable waters in accordance with State and Federal Regulations, etc.

This item will only be used if necessary and will not be used without approval of the Engineer.

**400.05.02 MATERIALS.** Not applicable.

**400.05.03 CONSTRUCTION.** Not applicable.

**400.05.04 MEASUREMENT AND PAYMENT.** Payment for this item is included in the Contingent Miscellaneous Repairs and Modifications item. There is no guarantee that any or all of this item will be used during the term of this Contract.



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**CATEGORY 400  
STRUCTURES**

**SECTION 400.06 – CONTINGENT MISCELLANEOUS REPAIRS AND  
MODIFICATIONS**

**400.06.01 DESCRIPTION.** To provide for miscellaneous structural repairs, modifications, equipment, and miscellaneous reimbursable expenses.

This item will only be used if necessary and will not be used without approval of the Engineer.

**400.06.02 MATERIALS.** Not applicable.

**400.06.03 CONSTRUCTION.** Not applicable.

**400.06.04 MEASUREMENT AND PAYMENT.** Payment for Materials for Structural Repairs, Specialized Equipment for Structural Repairs, Miscellaneous Reimbursable Expenses, specialized Subcontractor and other additional items as directed by the Engineer will be paid for under the Contingent Miscellaneous Repairs and Modifications item. There is no guarantee that any or all of this item will be used during the term of the Contract.



**CATEGORY 400  
STRUCTURES**

**SECTION 400.07 - CONCRETE BRIDGE DECK REPAIRS**

**400-07.01 DESCRIPTION**

This work shall consist of on-call, partial or full depth removal and replacement of deteriorated concrete in reinforced concrete and steel grid decks on the I-695 over Curtis Creek draw bridges and approaches.

**400-07.02 MATERIALS**

Refer to Subsection 426.02 of the Standard Specifications and the following:

A bonding agent, approved by the Engineer, shall be applied to all exposed concrete immediately prior to placement of fresh concrete.

For reinforced concrete bridge decks, the rapid setting mortar/concrete shall be one of the following products or an approved equal:

- Quikrete Rapid Road Repair #1242
- Bonsal Rapid Patch-VR manufactured by W. R. Bonsal Company in Charlotte, NC
- Sika Rapid-1 Hardening Accelerator manufactured by Sika Corporation in Lyndhurst, NJ added to mix no. 6 concrete
- Degadeck Polymer Concrete manufactured by Degussa Corporation in Shakopee, MN.

The bonding agent and mortar shall be from the same manufacturer.

Course Aggregate (1/2" maximum) shall be added to the rapid setting mortar in the proportion recommended by the manufacturer of the mortar/concrete.

**400-07.03 CONSTRUCTION**

Refer to Subsection 426.03 of the Standard Specifications and the following:

1. Concrete Deck Removal - The Engineer will outline the area to be repaired. In the reinforced concrete sections, a minimum 1" clearance shall be provided under the top mat of reinforcing steel.

Removal of concrete shall be limited to an area that can be repaired within the allotted work hours.



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Existing portions of grid deck shall be cleaned using hand tools if necessary and epoxy zinc rich coated. Care shall be exercised to prevent cutting or damaging any exposed reinforcement steel or steel grid. Damaged reinforcement steel shall be replaced according to Section 421 of the Standard Specifications.

2. Proportioning and Mixing the Concrete Materials - Materials shall be mixed at the site in conformance with the specified requirements of the manufacturer and for the equipment used. The concrete discharged from the mixer shall be uniform in composition and consistency. Mixing shall be capable of permitting repair operations to proceed at a steady pace.

3. Placing of Concrete – Any required forms supplied to enable placement of the concrete may be suspended from the deck by wire ties. The top surface of the deck repair shall be even with the top of the remaining deck.

Apply a bonding agent to all surfaces where fresh concrete will be placed against existing concrete. While the bonding agent is still tacky, place the fresh concrete. If the bonding agent dries, another coat shall be required at no cost to the Authority.

The new concrete shall not be placed at temperatures lower than the manufacturer's specifications without approved cold weather protection.

Concrete placement shall be limited to an area that will allow an appropriate time for curing within the allotted work hours.

4. Curing of Concrete – The concrete shall be wet cured for a minimum of one hour. Curing compound may be used as a substitute when a water cure is not practical.

All traffic (Contractor's or public) is prohibited on the concrete repair area until the curing of the material is completed and has reached a minimum compressive strength of 2500 psi.

5. General Requirements - Grinding or chipping the existing concrete deck within 6 ft of a newly repaired area is prohibited until the concrete has cured for a minimum of 12 hours.

Adequate precautions shall be taken to protect freshly placed concrete repair areas from sudden or unexpected rain.

The finished concrete repair area will be part of the riding surface of the bridge. The top of the repair area shall be placed to the true as planned line and grade of the roadway. The Contractor shall take every reasonable precaution to secure a smooth riding bridge deck by placing the concrete in a manner that meets the grade and finish of the adjoining portions of the existing bridge deck.



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The Authority will not pay for any repairs of damage to the existing deck caused by the Contractor's operations. The cost of repairing such areas shall be the sole responsibility of the Contractor.

No concrete or debris shall be allowed to enter the water below.

### **400-07.04 MEASUREMENT AND PAYMENT**

Deck repairs will be measured and paid for at the Contract unit price per square foot for the pertinent Deck Repair items. The payment will be full compensation for removing deteriorated concrete to the required depth, placing the repair materials, for all removal and cleaning, air blasting, flushing with water, forming, curing and disposing of material removed, replacement of damaged reinforcements, and for all material, tools, including mixers, and incidentals necessary to complete the work. No additional compensation will be provided for labor, material, and equipment other than the pertinent Deck Repair items.

Type III Deck Repairs in Reinforced Concrete Deck shall include areas where the depth of deck removal is over 3 in. deep but not full depth.

Type IV Deck Repairs in Reinforced Concrete Deck shall include areas where the depth of deck removal is full depth.

Partial Depth Deck Repairs in Concrete Grid Deck are defined as those in which the depth of repair extends only to a maximum of 50 percent of the vertical I-beam within the deck section.

Maintenance of Traffic for deck repairs will be paid for under other pertinent items. See Section 104 for details.

**820 GENERAL ELECTRICAL WORK AND TESTING**

See Section 820 of the SHA's *Standard Specifications for Construction and Materials* in conjunction with the changes shown in this Section.

**820.01 DESCRIPTION**

**ADD:** The following.

- (a) This work includes contacting, coordinating and cooperating with BG&E (or other local utility company) for the changes and additions to the electrical service.
- (b) The Plans show only diagrammatic locations of cables, conduits, and other underground utilities. They are approximate and do not show every detail. The Contractor shall provide working drawings, shop drawings, and catalog cuts, etc., which show final details of the installation.

**820.01.01 Codes, Standards, Inspection, and Documentation**

- (a) All work shall be performed in accordance with the codes and standards listed below. In addition, materials and construction methods shall meet the minimum requirements and recommendations of the listed codes, standards, and organizations. Unless otherwise stated, the latest edition, revision, or supplement, as of the date of advertisement, of the specified codes shall be used.
  - ANSI - American National Standards Institute
  - ASTM - American Society for Testing and Materials
  - IEEE - Institute of Electrical and Electronic Engineers
  - NEC - National Electrical Code (NFPA70)
  - NECA - National Electrical Contractors Association (NECA 1-2006)
  - NEMA - National Electrical Manufacturers Association
  - NESC - National Electrical Safety Code
  - NFPA - National Fire Protection Association
  - UL - Underwriters' Laboratories
  - TIA - Telecommunications Industry Association



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- (b) All materials supplied by the contractor shall be new and UL listed, where such listing is possible. Submit catalog cuts for all materials in accordance with Shop Plans & Working Drawings in SPECIAL PROVISIONS (TC4.01).
- (c) The MDTA Chief Electrical Inspector or his appointed representative will inspect the entire installation. The Contractor shall contact the Electrical Inspector at least 48 hours before needed inspections. All trenches shall be inspected before backfilling. All equipment, conduits, etc. shall be inspected at rough in and prior to concealment. All work shall be inspected prior to power-up. Contact the Chief Electrical Inspector, Douglas Evans, at 410-977-2687 or [devans3@mdta.state.md.us](mailto:devans3@mdta.state.md.us) to arrange necessary inspections.
- (d) All rough-in work shall be documented via a digital camera prior to concealment. Camera shall be color, minimum of 5 mega pixels, and images shall be clear and readable to the naked eye. All color photos shall be time stamped with the date of the picture. Filename or other label shall identify project number and general location of the picture. All pictures shall be submitted on a CD or DVD at the conclusion of the project, however, electronic copies shall be made available at any time by request to the project engineer, inspector, and/or electrical inspector.
- (e) Special attention is directed to the fact that the Standard Specifications For Construction and Materials dated July 2008 and published by the Maryland Department of Transportation, State Highway Administration, also governs this work, and is referenced frequently herein as the "Specifications."
- (f) All work shall be performed in accordance with NECA 1-2006 (Standard for Good Workmanship in Electrical Construction) or latest revision.
- (g) Unless clearly specified otherwise, all voltages indicated are AC (alternating current), shall be at 60 Hz, and stated as RMS values.

### **820.01.02 Quality Assurance and Quality Control**

The contractor shall inspect all materials furnished or installed under this contract and shall bring any damage, failure, or other problem to the attention of the project inspector prior to incorporation into the work. The contractor shall provide his own quality assurance and quality control for the work performed in the contract. The inspectors operating on behalf of the state are not a replacement for contractor's management and the contractor's own quality assurance and quality control.

Prior to final inspections/punch list development the contractor shall conduct his own inspections. The use of inspection checklists and quality control documents is required as evidence that inspections have been completed.

**820.03 CONSTRUCTION****820.03.01 GENERAL**

**ADD:** The following.

For the purpose of this specification, “direct supervision” shall mean that the qualified Master Electrician shall be at the job site at all times electrical work is performed. The Master Electrician shall be the single point of contact for inspection and quality control issues related to electrical work and shall be able to effectively manage the electrical work force.

The contractor must provide qualified labor to perform installation. Where licenses or certifications are available or required by local jurisdictions, state jurisdictions, or federal jurisdictions for certain skilled trades, such as electrical, mechanical, plumbing, welding, etc. The skilled trade workers shall have current versions of the appropriate license or certification prior to working the associated specialty and shall provide copies to the Project Engineer or Inspectors upon request.

Installation, splicing, terminating, and testing of fiber optic cable shall be performed by a trained and qualified fiber optic cable technician. Copies of certifications and experience shall be submitted to the Engineer prior to starting work.

**ADD:** The following just prior to paragraph 820.04.

**820.03.04 Testing Fiber Optic Cables**

Circuit tests shall be performed to verify that each fiber is connected to the proper circuit, and that it is continuous with no breaks, or damaged sections, in the fiber. All strands shall meet current EIA/TIA-568 specifications. Dark fibers and excessive attenuation due to breaks, bends, bad splices, defective connectors and bad installation practices shall not be accepted and shall be corrected. For fiber optic testing standards, see EIA-455-171 (FOTP-171), EIA 526-14.

- (a) All cables shall have ST connectors installed prior to testing. All testing, for purposes of acceptance of the system, shall be conducted on fully installed and assembled fiber optic cables.
- (b) Upon completion of testing, replace or repair any failed cable(s) with a new fiber or cable, and test the new cable to demonstrate acceptability.
- (c) Insertion loss testing shall be performed.
- (d) These tests shall be measured in dB.



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- (e) These tests shall use 850 nm and 1300 nm light sources for multimode fiber and 1300 and 1550 nm for single mode fiber.
- (f) Test shall be documented for all wavelengths as noted above.
- (g) Test results shall be documented on paper and stored on a computer diskette and shall be turned over to the electrical inspector after testing is complete. Attachment 820-A to this Section shows a sample fiber optic test report.
- (h) An optical time domain reflectometer (OTDR) approved by the Engineer shall be used to conduct testing. The OTDR shall be calibrated to sheath (jacket) length, not optical length, by adjusting the unit's index of refraction. Properly trained technicians shall conduct tests.
- (i) All OTDR traces shall maximize both the vertical and horizontal scales to the greatest extent possible and still fit the entire trace on the screen.
- (j) A cable segment shall be deemed a failure if the total loss exceeds the calculated loss for that length of cable as indicated in Attachment 820-A. A cable segment shall fail if any individual splice loss is greater than 0.3dB, or if any mated connector pair loss is greater than 1.0dB, or if there is any point loss (over less than 1' of cable) of more than 1.0dB.
- (k) After the circuit test, a functional test shall be performed. This test shall consist of allowing the system to operate as normal for 30 consecutive days. Any failures shall be repaired by the Contractor at his own expense, and the test restarted.

**820.03.05** All switches and breakers shall be operational and the operation of the devices they control verified. That is, the Contractor shall test switches and breakers in the presence of the MDTA electrical inspector to prove and assure that the device (or devices) specified is (are) controlled and no other device (or devices) is (are) controlled. All panel schedules shall be accurate and reflect the final installation.

**820.03.06** All GFI protected outlets shall be tested with a suitable tester in the presence of the MDTA electrical inspector. The tester shall be a device that plugs into the outlet and indicates proper wiring of the outlet. A switch on the tester shall be utilized to introduce a ground fault that must trip the GFI device.

**820.03.07** All Uninterruptible Power Supplies shall be tested by removal of power sources. Verify proper transfer to battery and backup time consistent with the manufacturers load vs time data for the particular model of UPS. Restore normal power and verify that batteries are charged and normal operation commences.



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**820.03.08** All PVC conduit fittings, except threaded fittings, shall be schedule 80 and glued and water tight. All GRSC fittings shall be tight fit.

**820.03.09** All photo electric controls shall be tested by applying a temporary shade to simulate photometric changes intended to activate the controls. Such testing shall be performed by the contractor in the presence of the MDTA electrical inspector.

**820.03.10** All three phase panels, loads, motors, generators, UPS's, and ATS's shall be checked for proper phase rotation and consistent phase termination between termination points. Ie: Phase A is the same Phase at all Phase A termination points and the phase rotation is the same at all points. Such testing shall be performed by the contractor and witnessed by the electrical inspector.

**820.03.11** Flexible metal conduit (Greenfield) and liquid tight flexible metal conduit (seal tight), and liquid tight flexible non-metallic conduit may be used as follows. Flexible fabric innerduct and innerduct used for low-voltage and fiber optic systems is not covered by this requirement.

(a) Lengths not exceeding 3' shall be used to connect transformers over 5KVA and motors.

(b) Lengths not exceeding 6' may be used for the final connection of light fixtures used in ceilings.

(c) Lengths not exceeding 6" may be used for the final connection devices that may be subject to minor vibration or minor movement perhaps from temperature expansion and contraction.

(d) Other lengths as clearly specified on the plans or as approved by the Engineer.

**820.03.12** Conduit/Cable labeling. Interior cable and raceways shall be permanently labeled at a minimum of every 50 feet, **every 25 feet when view is obstructed, and within 5' of any wall or floor/ceiling penetration** at all junction boxes, terminations, **and within 12" of electrical panel.** Label color shall be Safety Orange with Black Letters and shall follow ANSI (ASME) A13.1 for location and size.

**820.03.13** Unless specifically shown otherwise on the plans, wiring derived from different system voltages shall be installed in separate conduits. Wiring of different voltages derived from the same system (i.e. Control wiring) may be permitted to be installed in the same conduit or junction box provided that all requirements of the NEC are maintained.

**820.03.14** No wiring other than the primary voltage indicated shall be installed in electrical panels and Safety/Disconnect Switches. Exception may be granted for wiring that terminates on a device within the panelboard or safety/disconnect switch that is integral to the operation of that device. Enclosures for switches or overcurrent devices shall not be used as junction



boxes, auxiliary gutters, or raceways for conductors feeding through or tapping off to other switches or overcurrent devices.

**820.03.15 Branch Circuits:** Any circuits supplying more than 50% non-linear loads shall have a dedicated neutral conductor

**820.03.16 Conduit or tubing 1" and larger** shall be provided with a suitable insulating bushing.

**820.03.17 Panel Board Labeling.** All circuits installed or modified by the contractor in any way shall be properly labeled in the associated panel board panel schedule. This work shall include verifying that the existing load on the affected circuit(s) is also correctly identified. The label shall identify the type of load(s) served (e.g.: receptacles, lighting, appliances, motors, pumps, etc..) and the location (e.g.: room 103, sump pit#1, etc...). Where changes are minor (e.g. Two circuits or less being changed), the existing panel schedule may be modified as approved by the Electrical Inspector. Larger changes shall require a new panel schedule typed, neat in appearance. The new schedule may copy the identifying labels of the old schedule provided that the contractor has not made any changes to those circuits. To clarify, replacing a panel board, moving circuits within a panel board, or similar changes shall be considered modifying the circuit and shall require testing to verify the connections of all such circuits and coordinating the panel schedule with the existing conditions.

**820.03.18 Fire Stopping.** All penetrations into fire walls or core holes between floors and walls must be properly fire-stopped in accordance NEC requirements for fire stopping. Penetrations into the surface of any firewall or presumed firewall should be only slightly larger than the conduit, cable or cables that will need to pass through it. This will make fire stopping easier and allow the wall to maintain a better overall structural integrity.

**820.03.19 Construction Stakeout and Coordination**

- (a) The Contractor shall coordinate this work with the work of other trades to avoid conflicts. Electrical cables and equipment damaged by the execution of work of other trades shall be completely removed and replaced with new.
- (b) The Contractor shall keep an up-to-date set of as-built red lined drawings on the job site. Submit as-built drawings upon completion of the work. The Contractor shall note the exact location of trenches at 100-foot intervals on the as-built drawings by station, and offset from the roadway. The Contractor shall show only the work that is part of the final project on as-built drawings.

**820.03.20 Boxes and Cabinets.** Unless specified otherwise, junction boxes, pull boxes, disconnect switches, cabinets, and other boxes installed outdoors and above ground shall be NEMA4X rated; except cabinets and boxes requiring ventilation which shall be NEMA3X rated.



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**820.03.21** Rodent stopping. All conduits that connect to exterior mounted cabinets shall be stuffed with copper mesh at the cabinet end point to deter rodent egress through the conduit. The copper mesh shall be installed after all wires and cables have been installed. The mesh shall be removable and the mesh and installation and removal technique shall not damage wires or cables.

**820.03.22** Conduit Fill. All conduit, new or existing, shall not exceed conduit fill requirements as specified in ANSI/NECA/BICSI-568-2006. Discrepancies shall be brought to the attention of the engineer prior to incorporation into the work.



**ATTACHMENT 820-A**

**SAMPLE FIBER OPTIC CABLE TEST REPORT**

(To be filled out after installation is complete)

<b>Job Name:</b> <b>Job ID:</b>	<b>Fiber Cable:</b>
<b>Location (A):</b>	<b>Location (B):</b>

**ANSI/EIA/TIA 568A: Cable Loss Factor (CLF); 1km=3280.83 feet**

3.75 db/km (**0.00114 db/ft**) @ 850 nm for 62.5/125 μm MM

0.50 db/km (**0.00045 db/ft**) @ 1300 nm for 62.5/125 μm MM

0.50 db/km (**0.00015 db/ft**) @ 1310 nm and 1550 nm for OSP SM

1.0 db/km (**0.00030 db/ft**) @ 1310 nm and 1550 nm for ISP SM

0.5 Connector Loss (CL) = 0.75 db per pair of connectors

Splice Loss (SL) = 0.3 db each

**To calculate ACCEPTABLE LOSS (db): Multiply cable length x (CLF) + (CL) + (SL) = DB margin: \_\_\_\_**

Cable Length	Strand No	A to B	B to A	Fiber ID
Feet	1			Blue
850 NM MM	2			Orange
dB	3			Green
	4			Brown
	5			Slate
	6			White
	7			Red
	8			Black
	9			Yellow
	10			Violet
	11			Rose
	12			Aqua



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Cable Length	Strand No.	A to B	B to A	Fiber ID
Feet	1			Blue
1300 NM-MM	2			Orange
dB	3			Green
	4			Brown
	5			Slate
	6			White
	7			Red
	8			Black
	9			Yellow
	10			Violet
	11			Rose
	12			Aqua

Cable Length	Strand No.	A to B	B to A	Fiber ID
Feet	1			Blue
1550 NM-MM	2			Orange
dB	3			Green
	4			Brown
	5			Slate
	6			White
	7			Red
	8			Black
	9			Yellow
	10			Violet
	11			Rose
	12			Aqua

Technician: \_\_\_\_\_ Date: \_\_\_\_\_



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**CATEGORY 900  
MATERIALS**

**SECTION 950 — TRAFFIC MATERIALS**

**950.03 REFLECTORIZATION OF SIGNS AND CHANNELIZING DEVICES.**

**DELETE:** 950.03.03 Type IX Retroreflective Sheeting in its entirety.

**INSERT:** The following.

**950.03 Permanent Signs Retroreflective Sheeting.** Retroreflective sheeting for permanent signs shall conform to ASTM D 4956-05, except as modified below:

<b>MINIMUM REFLECTIVE INTENSITY VALUES FOR RETROREFLECTIVE SHEETING</b> Minimum Coefficient of Retroreflection-(R <sub>A</sub> ) cd/(lx · m <sup>2</sup> ) Per ASTM E-810 (Average of 0 and 90 degree orientation)									
Observation Angle°	Entrance Angle°	White	Yellow	Fl. Yellow	Fl. Yellow- Green	Red	Green	Blue	Fluor. Orange
0.2	-4	570	425	340	455	114	57	26	170
0.2	30	215	160	130	170	43	21	10	64
0.5	-4	400	300	240	320	80	40	18	120
0.5	30	150	112	90	120	30	15	6.8	45
1	-4	120	90	72	96	24	12	5.4	36
1	30	45	34	27	36	9	4.5	2	14

**950.03.07 Permanent Traffic Signs (PTS)** Unless otherwise specified in the Contract Documents, retroreflective sheeting for permanent signs shall conform to 950.03.03.