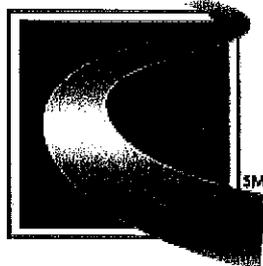


***MARYLAND TRANSPORTATION AUTHORITY***  
***Baltimore, Maryland***

***Invitation for Bids***

**BALTIMORE HARBOR TUNNEL FACILITY**



**Maryland  
Transportation  
Authority**

**CONTRACT NO. HT 2244-000-006**

**MORAVIA ROAD SALT BARN  
ROOF REPLACEMENT**

**BALTIMORE CITY**

**September 2009**



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**NOTICE TO BIDDERS/OFFERORS  
SMALL BUSINESS RESERVE PROCUREMENT**

This is a Small Business Reserve Procurement as defined in **COMAR 21.11.01.06**, for which award will be limited to certified small business vendors. Only businesses that meet the statutory requirements set forth in State Finance and Procurement Article, §§14-501 —14-505, Annotated Code of Maryland, and that are registered with the Department of General Services Small Business Reserve Program are eligible for award of a contract.

For the purposes of a Small Business Reserve Procurement, a small business is a for-profit business, other than a broker, that meets the following criteria:

- \* It is independently owned and operated;
- \* It is not a subsidiary of another business;
- \* It is not dominant in its field of operation;
- \* Its **wholesale** operations did not employ more than 50 persons, and its gross sales did not exceed an average of \$4,000,000 in its most recently completed 3 fiscal years;\*
- \* Its **retail** operations did not employ more than 25 persons, and its gross sales did not exceed an average of \$3,000,000 in its most recently completed 3 fiscal years;\*
- \* Its **manufacturing operations** did not employ more than 100 persons, and its gross sales did not exceed an average of \$2,000,000 in its most recently completed 3 fiscal years;\*
- \* Its **service operations** did not employ more than 100 persons, and its gross sales did not exceed an average of \$10,000,000 in its most recently completed 3 fiscal years;\*
- \* Its **construction operations** did not employ more than 50 persons, and its gross sales did not exceed an average of \$7,000,000 in its most recently completed 3 fiscal years;\* and
- \* The **architectural and engineering** services of the business did not employ more than 100 persons and the gross sales of the business did not exceed an average of \$4,500,000 in its most recently completed 3 fiscal years.
- \* If a business has not existed for 3 years, the employment and gross sales average or averages shall be the average for each year or part of a year during which the business has been in existence.

Further information on the certification process is available at [www.dgs.state.md.us](http://www.dgs.state.md.us) and click on the Small Business Reserve hyperlink.

## 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.
- 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). Do not leave any items blank.
- When tabulating your final price, make sure all your calculations are correct.
- 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**

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).



**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).
- (b) Temporary Barrier.
  - (1) Concrete Barrier.
  - (2) Traffic Barrier W Beam and Water Filled 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. HT 2244-000-006  
2 of 2

<b>WORK ZONE DEVICES</b>	<b>IMPLEMENTATION SCHEDULE TO CONFORM TO NCHRP REPORT 350 CRITERIA</b>
<p>CATEGORY 1 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>CATEGORY 2 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>CATEGORY 3 (a) Truck Mounted Attenuators (TMA) (b) Temporary Barriers (1) Concrete Barrier (2) Traffic Barrier W Beam and Water Filled Barrier (c) Temporary End Treatments</p>	<p>All devices shall conform to NCHRP Report 350 criteria.</p>
<p>CATEGORY 4 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 CONTRACTOR**

**EARLY SUBMISSIONS.** The last sentence of the first paragraph of TC-5.02, “No work shall be started before receipt of the Notice to Proceed” shall not apply to the following:

After notification to the Contractor from the Administration that the Contractor is the apparent low bidder, the Contractor will be permitted to provide a written request to the Engineer to submit documentation for materials sources and working drawings for any items of work that have a long lead time and could jeopardize the project schedule. Upon written approval from the Engineer the Contractor may submit the applicable documentation to the Engineer.

Should the Contract not be awarded to the apparent low bidder who meets the requirements of the Contract, GP-8.10 will apply for all costs accrued for the preparation and approval of the working drawings and any resultant material purchase approved by the District Engineer and steel fabricated in conformance with the approved working drawings between the date the Contractor received notice of apparent low bidder and the date of notice that the apparent low bidder will not be awarded this Contract.

Should this Contract not be awarded to the apparent low bidder due to failure of the Contractor to comply with all award and execution requirements, all costs accrued for the preparation of the specific items and any resultant material purchased and steel fabrication shall be borne by the Contractor.

Failure of the Contractor to submit the early submissions will not be basis for delaying issuance of the Notice to Proceed or be considered a reason for a time extension.



**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.



**REFERENCES.**

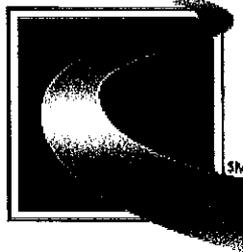
- (a) ANSI/ISEA 107/2004 standard – American National Safety Institute/International Safety Equipment Association
- (b) MUTCD 2003 – Manual for Uniform Traffic Control Devices - Sections 6D.03B and 6E.02
- (c) Visibility Research – The VCTR 1989 report concludes that fluorescent colors, when compared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

*Invitation for Bids*

**BALTIMORE HARBOR TUNNEL FACILITY**



**Maryland  
Transportation  
Authority**

Contract No. HT 2244-000-006

**MORAVIA ROAD SALT BARN  
ROOF REPLACEMENT**

**Baltimore City**

**September 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 **2:00 PM** on **September 22, 2009**, in the Conference Room, at the Maryland Transportation Authority, 300 Authority Drive, 1<sup>st</sup> Floor, Baltimore, Maryland 21222.



**SP 1-1 PROJECT DESCRIPTION**

CONTRACT NO.: HT 2244-000-006

TITLE: Moravia Road Salt Barn Roof Replacement

FACILITY: Baltimore Harbor Tunnel

COUNTY: Baltimore City, Maryland

ADVERTISED: September 8, 2009

PRE-BID MEETING: **September 22, 2009 at 2:00 PM** in the Conference Room, at the Maryland Transportation Authority, 300 Authority Drive, 1<sup>st</sup> Floor, Engineering Building, Baltimore, MD 21222

PROJECT CONTACT: Project Manager: Ms. Min Zheng at (410) 537-7869  
Contract Administration: Ms. Maggie Johnson at (410) 537-7807

BIDS DUE: **12:00 Noon, October 20, 2009**, in the Bid Box on the 1<sup>st</sup> Floor of the Maryland Transportation Authority, Engineering Building, 300 Authority Drive, Baltimore, MD 21222

CLASSIFICATION: Class A (Up to \$100,000)

CONTRACT TIME: Sixty (60) Calendar Days

LIQUIDATED DAMAGES: **\$ 250.00 per Calendar Day**

MINIMUM MBE GOALS: N/A  
**Small Business Reserve Contract (SBR)**

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 am and 4:00pm on Tuesdays at the Ticket Office located at the Francis Scott Key Bridge, Maryland Transportation Authority, Administration Building, 303 Authority Drive, Baltimore, MD 21222.



## **LOCATION AND SCOPE OF WORK**

This project is located at the Moravia Salt Barn at Baltimore Harbor Tunnel facility in Baltimore City, Maryland 21206.

Scope of Work will include, but is not limited to:

Demolition and removal of existing shingle roofing at entire upper and lower roof sections, flashings, drip edge and ridge vent down to the existing substrate.

Replace deteriorated/wet wood sheathing.

Install asphalt shingle roofing, ice and water shield over the entire roof section, flashing, drip edge, ridge vent and all associated roofing item as indicated in the technical specifications.

## **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 Ms. Min Zheng, Transportation Engineer at (410) 537-7869. Parties interested in visiting the site should contact Mr. John Monk, Chief Facility Maintenance Officer at (410) 537-1315.

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

The prime Contractor is responsible for making timely payments to all Subcontractors and Suppliers as required in the 1988 edition of the State Finance and Procurement Article of the Annotated Code of Maryland, Section 17-106.

This contract requires the Contractor to make payment to all Subcontractors within 10 days of receiving payment from the 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 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 Chief of Construction of the dispute. The Chief 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 Chief of Construction if this payment is not made. Upon receipt of notification, the Chief 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 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**

The Contractor will be permitted to work Monday through Friday 7:00 a.m. until 4:30 p.m. All equipment outages and switching operations shall be coordinated with the Owner and shall include outages during weekend or evening hours. Additional hours may be permitted if approved by the owner.

#### **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 insured the Maryland Transportation Authority and the State of Maryland.
2. The Contractor shall purchase and maintain such insurance as is specified herein which will protect 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 for which any of them may be held 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 \$100,000. 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) 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) 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) 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 from default/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.

**For Informational Purpose Only**

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

GP - 7.29 of the General Provisions is supplemented as follows:

MBE participation goal for this contract is as indicated in these Special Provisions.

The Contractor shall:

1. Identify specific work categories appropriate for subcontracting;



2. At least 10 days before bid opening, solicit Minority Business Enterprises, through written notice that:
  - a) describe the categories of work: and,
  - b) provide information regarding the type of work being solicited and specific instructions on how to submit a bid.
3. Attempt to make personal contact with Minority Business firms:
4. Assist Minority Business Enterprises to fulfill bonding requirements or to obtain a waiver of these requirements:
5. Upon acceptance of a bid, provide the Authority with a list of Minority Businesses with whom the Contractor negotiated, including price quotes from Minority and Non-minority firms.

**Third Tier Subcontracting:**

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. The Contractor's written request must be submitted prior to contract award and contain specifics as to why a Third Tier contracting agreement is being requested.

**Waivers:**

If for any reason the bidder/offeror is unable to achieve the specified overall contract goal or subgoals for each certified MBE classification, the bidder/offeror must request, in writing, on Attachment A, (Certified MBE Utilization and Fair Solicitation Affidavit), a waiver at time of bid.

Strict adherence regarding documentation of the rationale for the waiver request and documentation of "Good Faith Efforts" of the Contractor are required for consideration of any waiver. For additional information on waivers, please see COMAR 21.11.03.11.

**Criminal Fraud Provisions:**

All Contractors are reminded that Criminal Fraud Provision and Administrative Sanctions may be imposed for failure to achieve and maintain established MBE/DBE goals.

**SP 1-8 PROGRESS SCHEDULE REQUIREMENTS**

Refer to Section 110 of the Standard Specifications.



### **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 the Contractor and all Sub-Contractors that would be working at the site. This shall include trucking companies who would come to the site on a repetitive basis for supply or 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 Project Engineer or the Authority Police.

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



Maryland  
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SPECIAL PROVISIONS  
Contract No. HT 2244-000-006  
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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. Request for hardhat and rearview mirror decals shall be made to the Construction

Division before the beginning of construction and should include the number required of each type.

All costs associated with ID's will not be paid for separately and shall be incorporated under other items of payment in the contract.



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

**GP 1.03 – ORGANIZATIONAL DEFINITIONS**

Revise the definitions of Authority to read as follows:

Authority – The word “Authority” shall mean “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 offices and positions.



## GENERAL PROVISIONS

### GP-SECTION 1 DEFINITIONS AND TERMS

#### GP-1.04 ABBREVIATIONS

GP3 **ADD:** The following after SAWP

SSPC            Steel Structures Painting Council

#### GP-1.05 DEFINITIONS

GP7 **ADD:** The following after State.

**Subcontract** — Any agreement entered into by the Contractor or a subcontractor for a portion of the construction or any other part of the work in connection with, and under the terms of, the Contract.

**DELETE:** The Subcontractor definition in its entirety.

**INSERT:** The following.

**Subcontractor** — Any person undertaking a portion of the construction or any other part of the work under the terms of the Contract, by virtue of an agreement with the Contractor or a subcontractor, who prior to such undertaking has received the approval of the Authority. Subcontractor does not include an employee with an employment contract, or an employee organization with a collective bargaining agreement.

**ADD:** The following after Surety.

**Third Tier Contracting** — The process in which the Contractor subcontracts a portion of the Contract to a subcontractor who in turn subcontracts a portion of a subcontract to a third party. This latter action is termed entering into a third tier Contract.



**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.

**GP-2.06 PREPARATION OF THE BID**

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

The Contractor may elect to submit its bid on forms he has generated in the development of its bid. These may be submitted in lieu of the schedule of prices bid forms furnished by the Authority in the Invitation for Bids. These forms shall emulate the forms currently furnished by the Authority 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
- (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 Authority 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 Authority project and have not changed, they need not be resubmitted for this project.

Sample forms shall be submitted to:

Ms. Linda D. McGill, CPPB  
Chief Procurement Officer  
Office of Procurement & Statutory Program Compliance  
Maryland Transportation Authority  
300 Authority Drive  
Baltimore, MD 21222

## **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 seven (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 THE 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 four (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 four (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 8 PROSECUTION AND PROGRESS

**DELETE:** GP-8.01 SUBCONTRACTING in its entirety.

**INSERT:** The following.

#### **GP-8.01 SUBCONTRACTING**

Except as may be provided elsewhere in the Contract, the Contractor to whom a Contract is awarded shall perform with his own organization and with the assistance of workmen under his immediate supervision, work of a value of not less than 50 percent of the total original value of the Contract.

No portion of the Contract shall be subcontracted, assigned or otherwise disposed of except with the written consent of the procurement officer. Any assignment, subcontract or other disposition of all or part of this Contract without the express written consent of the procurement officer shall be null and void. Consent to subcontract, assign or otherwise dispose of any portion of the Contract shall not be construed to relieve the Contractor or surety of any responsibility for the fulfilling of all the requirements of the Contract.

The Contractor shall incorporate by reference or otherwise include these General Provisions in every subcontract issued pursuant to or under this Contract, and shall require that the same reference or inclusion be contained in every subcontract entered into by any of its subcontractors.



**GENERAL PROVISIONS  
GP SECTION 8  
PROSECUTION AND PROGRESS**

**GP 8.09 - LIQUIDATED DAMAGES**

Delete Section GP 8.09 in its entirety

Insert: Time is an essential element of the Contract and it is important that the work be vigorously prosecuted until completion.

For every calendar day that the Contract remains uncompleted after the expiration of the Contract time specified herein, or amended by extra work authorization, change orders or supplemental agreements, the Contractor will be liable for Liquidated Damages. The amount of Liquidated Damages shall be as specified in Contract Time and Bonding. This amount shall be deducted from any money due the Contractor, not as a penalty, but as Liquidated Damages. Damages in excess of any retained percentage shall be paid to the Authority by the Contractor.

Refer to Contract time and Bonding sheet contained elsewhere herein. See Table of Contents.



## GENERAL PROVISIONS

### GP-SECTION 9 PAYMENT

GP70 **DELETE:** GP-9.01 SCOPE OF PAYMENT in its entirety.

**INSERT:** The following.

#### GP-9.01 SCOPE OF PAYMENT

Payment to the Contractor will be made for the actual quantities of Contract items performed in accordance with the Plans and Specifications and if, upon completion of the construction, these actual quantities show either an increase or decrease from the quantities given in the bid schedule, the Contract unit prices will still prevail, except as provided in GP-4.04 Variations in Estimated Quantities.

The payment of any partial estimate or of any retained percentage except by and under the approved final estimate and voucher, in no way shall affect the obligation of the Contractor to repair or renew any defective parts of the construction or to be responsible for all damages due to such defects.

When requested in writing by the Contractor and approved by the procurement officer, payment allowance will be made for nonperishable material to be incorporated in the work delivered and stockpiled at the work site or other approved site. Material for which payment has been made, wholly or partially, shall not be removed from the worksite or other approved site.

Payment to the Contractor under this section for materials on hand in no way will be construed as acceptance by the Authority of title to the material. Title shall remain with the Contractor until the project has been completed and accepted in accordance with GP-5.13.

The Contractor shall indicate his Federal Tax Identification or Social Security Number on the face of each invoice billed to the State.

On Contracts in excess of \$25,000, the Contractor and any subcontractor with a lower tier subcontract, prior to receiving a progress or final payment under this Contract, shall first certify in writing that he has made payment from proceeds of prior payments, and that he will make timely payments, from the proceeds of the progress or final payment then due him, to his subcontractors and suppliers in accordance with his contractual arrangements with them.

The Contractor shall also obtain from each subcontractor a certification that it has made payment from proceeds of prior payments to any of its lower tier subcontractors, and will make timely payments to its lower tier subcontractors and suppliers in accordance with its contractual arrangements with them. This certification is not required from subcontractors who have no lower tier subcontracts. These certifications may be required by the procurement officer for contracts of \$25,000 or less.



In addition to any other remedies provided by law or this Contract, any Contractor or subcontractor of any tier who fails to make payments as required by the certifications set forth in the above paragraphs within thirty (30) days from the date such payment is due shall be obligated to include with such payment interest at the rate of 10 percent per annum from the date the payment was due to the date the payment was actually made to the subcontractor or lower tier subcontractor.



**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 1 REFERENCES AND DEFINITIONS

#### TC-1.01 REFERENCES

- 1 **ADD**: As the third paragraph.

References to all specifications and procedures shall be understood to be the most recently published standard at the time of advertisement unless otherwise specified in the Contract Documents.

#### TC-1.02 DEFINITIONS

- 5 **ADD**: After **Special Provisions**.

**Special Provisions Inserts** — Additions and revisions to the Standard Specifications that have not been officially approved as an Interim Specifications Addenda (“ISA”).



## TERMS AND CONDITIONS

### TC SECTION 3 SCOPE OF WORK

#### TC-3.01 GOVERNING ORDER OF CONTRACT DOCUMENTS

- 11 **DELETE**: The first paragraph in its entirety.

**INSERT**: The following.

The Contract Documents, including but not limited to the Standard Specifications, the Interim Specifications Addenda, the Special Provisions Inserts, the Plans, Special Provisions, and all supplementary documents are essential parts of the Contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In the event of any discrepancy between the drawing and figures written thereon, the figures, unless obviously incorrect, will govern over scaled dimensions. In the event of any discrepancy between the various Contract Documents, the governing order from highest to lowest shall be Special Provisions, Plans, Special Provisions Inserts, Interim Specifications Addenda, Standard Specifications and Technical Specifications.

#### TC-3.03 CONTINGENT ITEMS

- 12 **DELETE**: In the second paragraph the last sentence "Neither party shall . . . of such items."

**INSERT**: The following.

The requirements of GP-4.04 (Variations in Estimated Quantities) and TC-7.07 (Eliminated Items) shall apply.



**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, Maryland 21222-2200  
ATTN: Min Zheng

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 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 his 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.

#### **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 pro-rata 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 **\$150.00** 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.



Maryland  
Transportation  
Authority

#### **TC-4.05 DISPUTE MEDIATION**

When a dispute arises out of or relates to the Contract 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 Authority 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/ Two Million Dollars (\$2,000,000.00) 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  
304 Authority Drive  
Baltimore, Maryland 21222



**TERMS AND CONDITIONS**

**TC SECTION 6  
RESTRICTIONS AND PERMITS**

**TC-6.03 COMPLIANCE WITH MARYLAND VEHICLE LAWS.**

The Maryland Vehicle Law requires each motor vehicle, trailer, semitrailer and pole trailer driven on a highway to be registered.

There are some exceptions to this general requirement concerning nonresidents. If a nonresident is operating a vehicle(s) in Maryland as described below, the nonresident exemption is not applicable and the vehicle(s) being operated shall be titled and registered in conformance with the applicable Motor Vehicle Laws.

The vehicle is:

- (a) Used for transporting persons for hire, compensation, or profit
- (b) Regularly operated in carrying on business in this State
- (c) Designed, used, or maintained primarily for the transportation of property, or
- (d) In the custody of any resident for more than 30 days during any registration year.

In addition to the titling and registration requirements for vehicles being operated in Maryland, all equipment being used shall be properly identified. Maryland classifies this equipment as "Special Mobile Equipment" which is defined as a vehicle that:

- (a) Is not used primarily for highway transportation or property; and
- (b) Is operated or moved on highway only as an incident to its nonhighway use.

Special mobile equipment includes a road construction or maintenance machine, mobile crane, ditch digger, well driller, concrete mixer, jobsite office vehicle or portable power generator.

An interchangeable license plate is issued to special mobile equipment. However, titling is not required.

For additional information concerning the requirements for titling and registering your vehicles in Maryland, please contact the Motor Vehicle Administration, Chief, Division of Vehicle Registration.

The Contractor shall adhere to all State Motor Vehicle laws and safety regulations.



## TERMS AND CONDITIONS

### TC SECTION 6 RESTRICTIONS AND PERMITS

25 **DELETE:** TC-6.09 HAZARDOUS MATERIAL in its entirety.

**INSERT:** The following.

#### **TC-6.09 HAZARDOUS MATERIAL.**

- (a) If the Contractor encounters or exposes during construction any abnormal conditions which indicate the presence of a hazardous material or toxic waste, work in the area shall immediately be suspended and the Engineer notified. The Contractor's operations in this area shall not resume until permitted by the Engineer, however, the Contractor may continue working in other areas of the project, unless directed otherwise.

Abnormal conditions shall include, but not be limited to the presence of barrels, obnoxious or unusual odors, excessively hot earth, smoke, or any other condition which could be a possible indicator of hazardous material or toxic waste.

Where the Contractor performs necessary work required to dispose of these materials and no items have been identified in the Contract Documents, the work shall be performed under an extra work order.

- (b) For any material furnished on the project by the Contractor suspected to be hazardous or toxic the Engineer may require the Contractor to have it tested and certified to be in conformance with all applicable requirements and regulations. Material found to be hazardous or toxic shall not be incorporated into the work. The required testing will be determined by the Engineer and may include, but not be limited to, the EPA Toxicity Characteristic Leaching Procedure ("TCLP") or its successor. The evaluation and interpretation of the test data will be made by the Engineer. Testing and certification shall be at no additional cost to the Authority.
- (c) Disposition of the hazardous material or toxic waste shall be made in conformance with all applicable requirements and regulations.



## TERMS AND CONDITIONS

### TC SECTION 6 RESTRICTIONS AND PERMITS

26 **DELETE:** TC-6.10 RECYCLED OR REHANDLED MATERIALS in its entirety.

**INSERT:** The following.

#### TC-6.10 RECYCLED OR REHANDLED MATERIALS

The Contractor shall submit to the Engineer, using MD SHA Form TC-6.09, the specific type and quantity of recycled materials (a) through (h) anticipated for use on the project prior to receipt of the Notice to Proceed. This submission does not preclude the normal materials process. Recycled materials shall conform to all applicable Specifications.

Typical recycled materials are:

- (a) **Crumb Rubber.** Any rubber derived from processing whole scrap tires or shredded tire materials from automobiles, vehicles or other equipment owned and operated in the United States, provided the processing does not produce waste casings or other round tire material that can hold water when stored or disposed above ground. Rubber tire buffings produced by the retreading process qualify as a source of crumb rubber.
- (b) **Recycled Asphalt Pavement.** Existing asphalt pavement milled or otherwise removed. Recycled in-place material is excluded.
- (c) **Glass.** Waste glass crushed to be used as aggregate.
- (d) **Blast Furnace Slag.** The nonmetallic by-product of iron production.
- (e) **Recycled Concrete Pavement.** Existing concrete pavement crushed to be used as aggregate.
- (f) **Mining Waste Rock.** The coarse material removed during the ore mining process.
- (g) **Coal Fly Ash.** Fine material collected from the stack gases after coal combustion.
- (h) **Other.** Any materials not listed above which are recycled as the original product or incorporated into other products.

For recycled or rehandled material furnished on the project by the Contractor for use in embankment, base, subbase or drainage media, the Engineer may require the Contractor to have the material tested and certified to be in conformance with all applicable environmental



requirements. The required testing will be determined by the Engineer and may include, but not be limited to, the EPA Toxicity Characteristic Leaching Procedure ("TCLP") or its successor. The evaluation and interpretation of the test data will be made by the Engineer and be based on the project environment. Testing and certification shall be at the Contractor's expense.

**TC-6.11 CONSTRUCTION AND WASTE MATERIAL.**

All wood, trash debris and other foreign matter shall be removed from the right-of-way and disposed of by the Contractor. The Contractor shall make all necessary arrangements to obtain suitable disposal locations and shall furnish the Engineer with a copy of resulting agreements. Disposal shall be in conformance with all Federal, State and local ordinances.



## 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 has been tested by the Authority 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 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 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 Authority's Contract number on individual units. If the material is normally shipped to the project in bundles or other forms of packaging, the Authority'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 Authority 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 District 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 District Engineer at least two weeks prior to the estimate cutoff date established by the District 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 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 District Engineer and verification by the Inspector that the material is stored at the approved location, the District 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 Authority 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 Authority. Evidence of payment shall be provided to the Authority. 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.



### TC-7.03 FORCE ACCOUNT WORK

#### (e) Subcontracting.

35 **ADD:** The following to the end of the paragraph.

"or five hundred dollars (\$500) which ever sum is greater."

**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 percent 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 whom they had a contract and their performance shall be documented on Authority forms.

All other Contractors who do not fit into the above criteria would require a 5 percent retainage throughout the life of the Contract.



**TC SECTION 7  
PAYMENT**

**TC-7.06 FINAL ACCEPTANCE AND FINAL PAYMENT**

128 **DELETE:** (b) in its entirety.

**INSERT:** The following.

**(b)** The Contractor shall then have a period of thirty (30) days, dating from the date upon which it received the aforementioned tabulation from the Authority, in which:

**(1)** To decide whether or not he will accept final payment upon such a basis, and

**(2)** To notify the Authority, in writing, of his decision. The Contractor may request an additional period up to thirty (30) days in which to notify the Authority of its decision. In the event the Contractor notifies the Authority that it protests final payment on such a basis, that notification shall outline the reasons for said protest.



**CATEGORY 100**

**DELETE: SECTION 103 — ENGINEERS OFFICE** in its entirety.

**INSERT:** The following.

**SECTION 103 — ENGINEERS OFFICE**

**103.01 DESCRIPTION.** This work shall consist of furnishing, cleaning, and maintaining in good condition an Engineers office at a location within the immediate vicinity of the project and approved by the Engineer. The Engineers office shall be separated from any offices used by the Contractor and it and all items therein shall be for the exclusive use of the Authority's Engineers and Inspectors. Rented properties that conform to the type of office specified in the Contract Documents will be acceptable.

**103.02 MATERIALS.** Not applicable.

**103.03 CONSTRUCTION.** The office shall be set up, equipped and made ready for use a minimum of five days prior to commencement of other work on the project and shall remain until all field records have been completed. Upon removal the location shall be restored and left in a condition acceptable to the Engineer.

Unless otherwise specified, the Engineers office and all equipment and accessories furnished by the Contractor shall become the property of the Contractor at the completion of the project.

**103.03.01 Handicap Accessibility.** When handicap accessibility is necessary, it shall comply with the Federal Register-Volume 56 No. 144-Americans with Disability Act (ADA) Accessibility Guidelines for Buildings and Facilities.

**103.03.02 Mobile Office Trailers.** Office trailers shall be anchored in conformance with the manufacturer's recommendations. Office trailers defined under the Industrial Building and Mobile Act of Maryland shall be approved by the Maryland Department of Economic and Community Development and bear the Maryland Certification Insignia. The Insignia shall be located in the interior of the office as set forth in the regulations.

**103.03.03 Quality Control Laboratory.** Refer to Section 915.



**103.03.04** Construction Requirements for all Offices.

1. Entirely enclosed, waterproofed, and completely insulated to a minimum R11 rating.
2. Double thick floor with building paper placed on top of the lower floor.
3. Finished inside and outside as approved by the Engineer.
4. The building shall have a minimum ceiling height of 7 ft, and have a pitched roof with a ventilating louver in each gable.
5. A 4 X 1 ft minimum sign with the message "ENGINEERS OFFICE – MARYLAND TRANSPORTATION AUTHORITY", shall be attached to or mounted in front of the office. The sign shall have a black background with minimum 3-inch height white lettering. It shall have a 1-inch wide white border around the entire sign.
6. A 5 X 7 in. minimum no smoking sign shall be posted on the outside of each entrance to the office, plant laboratory, and mobile housing unit.
7. Interior and exterior doors shall be equipped with different key locks. Interior doors shall be keyed alike and exterior doors shall be keyed alike. Exterior doors shall have an additional dead bolt lock. The Contractor shall provide the Engineer four keys for the interior and exterior locks.
8. Windows shall be capable of being opened and closed and be equipped with latches and screens. Each window shall have venetian blinds or shades.
9. Electrified to conform to national and State electrical codes with satisfactory artificial lighting and lighting services. The minimum illumination level shall be 75 ft-c.
10. Equipment shall be provided to enable heating the office to at least 70 F and cooling to at least 78 F.
11. The restroom facility shall include wash basin, water closet, soap holder, paper towel holder, and mirror. It shall be connected to water and sewage, or a well and septic system. A pressurized water system capable of maintaining a minimum pressure of 20 psi shall be provided. These facilities shall conform to the State Department of Health and Mental Hygiene or other authorities having jurisdiction.
12. The Contractor shall maintain the Engineer's facilities in a clean and sanitary condition, and have the trash removed daily. Floors shall be swept daily and damp



mopped and waxed biweekly. The interior and exterior of all windows shall be cleaned monthly. Additionally, this work shall be performed on an as needed basis when requested by the Engineer.

13. The Contractor shall be responsible for protecting the Authority and Authority employees from any loss or damage to their property stored in the Engineers Office. The protection shall be in the amount of twenty thousand dollars (\$20,000), nondeductible, per each occurrence, for any loss or damage due to fire, theft, vandalism, storms or floods. Reimbursement, replacement, or repair shall be completed within 30 days from the date the Engineer reports the loss to the Contractor.
14. A designated parking area, with the specified number of spaces, shall be provided for the exclusive use of Authority employees. The Contractor shall post signs to designate the assigned parking areas and enforce the parking rules. The parking area shall be stabilized as directed by the Engineer.
15. Fire extinguishers shall be dry chemical, multi-purpose ABC type (minimum 10-lb), equipped with a visual air pressure gauge. They shall be maintained in conformance with OSHA safety and health standards.
16. A 24 unit first aid kit shall be furnished and maintained as described in the Code of Federal Regulations, Title 29 Subpart D, Section 1926.50(d)2.
17. A waterproof bulletin board, minimum 4 X 8 ft, shall be installed within the limits of the project in an easily accessible area and shall be conspicuously displayed to all employees. The Contractor shall post all pertinent and required notices and shall maintain it for the duration of the project.
18. Touch-tone telephones equipped with an answering device capable of answering, recording, storing, and playing back messages at least 30 minutes in length. The machine shall be voice activated, beeperless, to record as long as speaker speaks, and shall play back recorded messages without dial tone or pauses. The machine shall be capable of recording outgoing messages up to 15 seconds in length.
  - If a telephone or answering machine becomes defective, is stolen, or for any other reason does not function as intended, it shall be replaced with an equal or better unit within eight hours after the Contractor is notified at no additional cost to the Authority.
  - Emergency telephone numbers shall be conspicuously posted in the office.



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19. One 12 cu ft electric refrigerator.
20. One modern cassette player/recorder with cassettes and approved by the Engineer.
21. One modern one-step operation paper copier machine. The Contractor shall supply paper and provide service as needed.
22. One sanitary type electric water cooler including bottled water and disposable cups.

**103.03.05** Microcomputer System for all Offices.

1. Desktop Unit.
  - IBM compatible with an Intel or AMD processor.
  - Minimum microprocessor speed of 3 GHz and minimum bus speed of 800 MHz for single core processor, or minimum microprocessor speed of 2.4 GHz for multiple core microprocessors with minimum bus speed of 1066 MHz.
  - Minimum hard drive storage of 80 GB (gigabyte) with SATA-300 interface.
  - Minimum of 2.0 GB RAM (Random Access Memory).
  - Enhanced 101 key keyboard with wrist rest.
  - Super Video Graphics Accelerator (SVGA) with 64 MB memory.
  - Modem shall have a minimum of 56K BPS, ITU V.92 compliant – required for remote dial-in to the computer to provide MCMS system administration.
  - Full Duplex Sound Card or on-board (Sound Blaster Pro & Windows Compatible)
  - Audio Speakers
  - Mouse with mouse pad.
  - One CDRW/DVDRW combo drive Min. speed = 48X.
  - One Parallel Port, One Serial Port, Two USB Ports.
  - One Network Interface Card or on-board port. Ethernet based with minimum 10/100 MB operation.
2. Operating System. Minimum Microsoft® Windows XP – all Microsoft Windows Critical Updates shall be installed prior to computer set-up in the field office.
3. Video Monitor. Color Super VGA monitor conforming to Energy Star requirements with a minimum screen size of 19-inch flat panel.
4. Digital Camera
  - a. The digital camera shall be selected from the approval digital camera list maintained by MdTA Engineering Construction Section. The Contractor shall obtain a copy of



the latest approved list by contacting the Construction Section at the following address:

Maryland Transportation Authority  
Engineering Construction Section  
300 Authority Drive  
Baltimore, MD 21222  
(410) 537-7888  
(410) 537-7802 - Fax

Related Sections include the following:

- Category 100, Section 111 "Digital Camera"
5. Printer. 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.
  6. Software.
    - Microsoft® Office XP Professional for Windows™ or later.
    - Primavera Version 2.0 B.
    - Antivirus software shall be installed and configured to perform an automatic update when the microcomputer system connects to the internet.
  7. Internet Access. The microcomputer system shall be provided with unlimited DSL/Broadband or better Internet access approved by the Engineer.
  8. Accessories.
    - Uninterruptible power supply (UPS).
    - Standard computer workstation with minimum desk space of 60 X 30 in. and a swivel type office chair, padded with arm rests.
    - 8-1/2 X 11 in. xerographic paper to be supplied as needed.
    - Toner or ink as needed for printer.
    - Maintenance agreement to provide for possible down time.
    - Physical security system to deter theft of computer components.
    - One – USB 2.0 Flash Drive (1 GB of Memory)
    - Blank recordable CD-R media for re-writable CD-ROM drive to be supplied as needed.
  9. Notes.



- The microcomputer system shall be completely set up ready for use on or before the day the Engineers office is to be occupied.
- All software stated above shall be supplied on original disks with original manuals and be retained in the construction field office for the duration of the Contract.
- If for any reason the system fails to operate, the system shall be replaced or repaired within 48 hours.
- 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 District Engineer and become the property of the Owner/Maryland Transportation Authority. The remaining microcomputer system shall remain the property of the Contractor.

**103.03.06 Specific Field Office Requirements.**

1. **Type A Engineers Office.** This office shall be a standard office trailer with a minimum of 200 sq ft of floor area under one roof.
2. **Type B Engineers Office.** This office shall be a standard office trailer with a minimum of 400 sq ft of floor area under one roof.
3. **Type C Engineers Office.** This office shall be a standard office trailer with a minimum of 700 sq ft of floor area under one roof.
4. **Type D Engineers Office.** This office shall be a one-story structure containing a minimum of 1300 sq ft of floor area under one roof. Modular construction is acceptable. Office trailers are not acceptable.

Table 103 Specific Requirements

ENGINEERS OFFICE				ITEM
A	B	C	D	
–	1	2	–	Inner Offices–100 sq ft each
–	1	1	–	General office area
–	–	–	4	Inner Offices–120 sq ft each
–	–	–	1	Conference room–240 sq ft
–	–	–	1	Storeroom with shelves–120 sq ft
1	1	1	2	Restroom, minimum 30 sq ft



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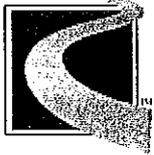
-	1	1	1	Inner office ingress and egress to the other rooms
3	4	4	5	Executive type desks with center drawers. Minimum top dimensions of 32 X 60 in.
3	4	4	5	Swivel chairs, padded with arm rests
1	1	1	1	Slant top drafting table and stool, approximately 40 in. high at the front edge and having minimum top dimensions of 30 X 72 in.
1	2	3	6	Folding utility tables, 30 in. high and having minimum top dimensions of 30 X 72 in.
-	-	-	1	Conference table with padded chairs for 12 persons
2	6	10	12	Additional padded chairs
1	2	2	3	Plan racks
1	1	1	2	Coat racks
-	-	-	1	3 X 6 ft blackboard or whiteboard
1	2	3	3	Electronic desk calculators with memory and tape readout (including instruction manuals and replacement tapes as needed)
1	1	2	6	Legal size steel filing cabinets, four-drawer fire resistant (D label) with locks
-	2	2	2	Standard size steel filing cabinets, four-drawer with locks
1	1	1	5	Bookcases having four shelves 36 X 12 in.
1	2	2	2	Closets extending the full height from floor to ceiling, measuring not less than 24 X 30 in. and equipped with locks and at least two shelves in each
1	1	1	-	Utility cabinet with three adjustable shelves
1	1	1	-	Overhead cabinet minimum dimensions of 8 ft long 15 in. deep, and 18 in. high
1	1	1	2	Fire extinguisher as described in 103.03.04
1	2	2	4	Touch-tone telephones with separate lines, as described in 103.03.04
2	2	2	2	Battery-operated smoke detectors
4	8	10	15	Designated parking spaces



**103.04 MEASUREMENT AND PAYMENT.** Engineers office will not be measured but will be paid for at the Contract lump sum price for the pertinent Engineers Office specified in the Contract Documents.

Payment of 50 percent of the Contract lump sum price will be payable on the first estimate subsequent to complete installation of the Engineers office. The remaining 50 percent will be prorated and paid in equal amounts on each subsequent monthly estimate. The number of months used for prorating will be the number estimated to complete the work. The final month's prorated amount will not be paid until the office is removed and the area is restored. The payment will be full compensation for site preparation, utility costs, all specified furnishings, to provide, equip, clean, maintain, insure, remove and dispose of the office, restore the site and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

The only exception to the all inclusive Contract lump sum price is the stabilization of the parking area, which will be measured and paid for using the pertinent items as directed by the Engineer.



**CATEGORY 100  
PRELIMINARY**

**SECTION 108 MOBILIZATION**

Delete Section 108 in its entirety and insert the following:

**108.01 Description**

Mobilization shall consist of the construction preparation operations, including the movement of personnel and equipment to the project site and for the establishment of the Contractor's offices, shops, plants, storage areas, sanitary and other facilities required by the Specifications and Special Provisions of the contract as well as by local or State Law or regulation, and all other work operations which must be performed prior to beginning work on compensable items of work at the project site. The determination of the adequacy of the Contractor's facilities shall be made by the Contractor.

**108.02 Materials**

Not applicable.

**108.03 Construction Methods**

All work done in providing the facilities and services under this item shall be done in a safe and workmanlike manner.

**108.04 Method of Measurement & Basis of Payment**

Mobilization will not be measured, but will be paid for at the contract lump sum bid for mobilization. The cost of required insurance and bonds and/or any other initial expense required for the start of work shall be included in this item.

Payment of 50 percent of the Mobilization item will be made in the first monthly estimate after the Contractor has established the necessary facilities. The remaining 50 percent will be prorated and paid in equal amounts on the remaining monthly estimates. The payment as will be full compensation for all labor, materials, equipment, tools and incidentals necessary to complete the work.

Payment of the Mobilization item will not be made more than once, regardless of the fact that the Contractor may have, for any reason, shut the work down on the project or moved equipment away from the project and then back again.

If an item for mobilization is not provided, the cost of mobilization including the required insurance and bounds will be incidental to the other items specified in the Contract Documents.

**CATEGORY 100**  
**PRELIMINARY**

**SECTION 113 — DIGITAL CAMERA**

**113.01 DESCRIPTION.** Furnish 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) 4.0 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.

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

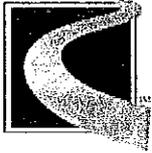
**113.03 CONSTRUCTION.** Not applicable.

**SPECIAL PROVISIONS**  
113 — DIGITAL CAMERA

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**113.04 MEASUREMENT AND PAYMENT.** The digital camera will not be measured but the cost will be incidental to the Contract price for Maintenance of Traffic unless otherwise specified in the Contract Documents. 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.



**SUMMARY OF WORK**

PART 1 – GENERAL

1.01 Sections 01010 through 07600 of this Invitation for Bids includes the Technical Specifications for all work related to the Roof Replacement for the Moravia Salt Barn in Baltimore City, Maryland. General Provisions, Terms and Conditions and Section 100 of the Standard Specifications shall also apply to the work specified in these Sections.

PART 2 – MEASUREMENT AND PAYMENT

2.01 Unless otherwise specified herein, all work described in Sections 01010 through 07600, including all labor, materials, equipment and incidentals, complete in place as accepted by the Maryland Transportation Authority Engineer, will **not** be measured for payment, but costs thereof shall be included in the contract lump sum price bid for the pertinent Roof Replacement for the Moravia Salt Barn items at Baltimore Harbor Facility, Baltimore City, Maryland.



**MISCELLANEOUS CONTINGENCIES (ALLOWANCE)**

**PART 1 – GENERAL**

A contingent allowance of **\$5,600** has been included in the Proposal Form (Schedule of Prices) for miscellaneous work that may be determined necessary by the Engineer during the construction period.

This work shall be performed only upon written direction of the Engineer. Upon the directions from the Engineer, the Contractor shall submit a written time and material cost for this task for the Engineer's review and/or approval prior to commencing any work. The Contractor shall allow two (2) weeks turn around time for review and approval. In lieu of this method, the Engineer may direct the Contractor to perform the work in accordance with the requirements of "Force Account Work" Section GP 9.02 of the Specifications.

Refer also to TC 3.03 "Contingent Items" in the Standard Specifications.

**PART 2 – MEASUREMENT AND PAYMENT**

All work performed under this item "Miscellaneous Contingencies" will be paid for on the basis of approved price proposal and/or force account record submitted in accordance with Section GP 9.02 of the Standard Specifications and with the authorization of the Engineer. The approved amount shall be full compensation for all labor, equipment, materials and incidentals complete in place as directed by the Engineer.

At the completion of the entire project, the contract award amount shall be adjusted based on the remaining amount of the contingency allowance. (Schedule of Prices Item No. 402)

## SECTION 01010 – GENERAL

### PART 1 - GENERAL

#### 1.1 WORK SCOPE AND GENERAL DESCRIPTION

- A. All labor, equipment, materials and supervision of work are to be provided by the Contractor to perform all project work included in this specification, on the Salt Barn as necessary throughout the Authority complex as seen during the pre-bid and indicated on the roof drawing. Listed below is a general scope of work to be performed under this contract. A more detailed description of the work required of the Contractor for this project is included in this specification, in the project drawings and the other contract documents. Generally, the work will include:
1. Provide all labor, equipment, and materials to install the shingle roof system over the properly prepared substrate.
  2. Removing all existing roof coverings, including all asphalt shingles and underlayment felt down to the existing substrates from all the roof areas being replaced.
  3. Removing all existing metal flashings, drip edge and ridge vent.
  4. Provide proper wood nailer/blocking for flashing and drip edge attachment. Replace existing nailer/blocking if found in bad condition. Provide new nailer/blocking as necessary and indicated by the roof system manufacture.
  5. Properly clean, dry and repair any damaged areas of the existing plywood roof sheathing. All of these damaged areas will be inspected by MdTA and the roof system manufacture prior to the installation of the ice and water shield and the asphalt shingle roof.
  6. Placing one layer of new ice and water shield underlayment over entire roof surface to receive asphalt shingles.
  7. Placing another layer of new ice and water shield underlayment at all eaves and slope change edge 2 feet from the end.
  8. A new ridge vent will be installed.
  9. A new metal drip edge will be installed around the entire perimeter and slope change roof edge.

10. Once the ice and water underlayment is in place, install the asphalt shingles over the entire roof surface.

11. Replace the skylight panels if found in bad condition.

- B. The Roofing/flashing membrane Manufacturer's most recent specifications are wholly included as a part of this specification. The Manufacturer's specifications must be complied with, except as exceeded by this specification. In no event may any work be installed contrary to the Manufacturer's requirements.

## 1.2 QUALITY ASSURANCE

- A. The new roof covering systems are to be installed by a qualified contracting firm that has a minimum of five years' successful experience in the installation of the roof covering system specified for this project.
1. The contractor must provide written certification from the roof shingle Manufacturer, certifying that the contractor is approved and licensed by the Manufacturing to install the roof shingle system specified herein.
- B. The Contractor, roof system manufacture (and all Subcontractors) are to meet with the Authority Engineer (or Authority representative) at the job site a minimum of one week before any commencement of work or delivery of materials, to discuss job coordination, such as staging areas, storage areas for materials, daily procedure of construction personnel, job site safety and security, and other project logistics. The Contractor's (and all Subcontractors') superintendent and project foreman to (both) attend the pre-construction meeting will result in Authority/the Engineer rescheduling the pre-construction meeting, and the Contractor will back-charged for all time/expenses incurred by Authority/the Engineer personnel for attending the meeting that the Contractor's superintendent and/or foreman fail to attend.
- C. The Contractor is to repair and/or replace all work installed by the Contractor that is, in the opinion of the Engineer and roof system manufacture, deficient, including any conditions that may diminish the life expectancy or performance, of the roof covering system. Such repair and/or replacement work must be performed immediately upon the request of the Engineer, and at no additional cost to Authority.
- D. The Authority's Project Manager or designee hereby reserved the right to have test cut samples of the new roof covering made for examination. All test cuts are to be made by the Contractor, where and when as directed by the Authority's representative. All sampled area are to be repaired by the Contractor in such a way as to preserve all warranties and/or guarantees required in this specification, and at no additional cost to Authority.

- E. The Contractor must perform all work in accordance with the best industry practices. All new roof covering systems are to meet the requirements for:
1. Underwriter's Laboratories, Inc. and / or Wernock Hersey Class A Fire Hazard Classification. All major components of the roof covering system, including membrane, membrane fasteners, adhesives, and surfacing/coating materials must be approved by Factory Mutual in the "Factory Mutual Approval Guide and / or Listing." Manufactures Certificate: Certify that the roof system is adhered / secured by Factory Mutual Approval Standard 4470. Certify that the roof system manufacture is adhered / secured to meet requirements of the FM I-90 listings.
  2. Factory Mutual Engineering corporation (FM) Class I Construction, as published in the most recent edition of the "Factory Mutual Approval Guide" and the "Factory Mutual Loss Prevention Data Bulletin 1-28" and / or Approved by an accepted third party consulting firm meeting or exceeding all of the minimum standards set forth by Factory Mutual minimum testing criteria for the specified materials.
- F. The engineer is to be informed of all subcontracting companies involved on this project (name, address, telephone number, etc.), prior to commencement of work. Authority reserves the right to reject any subcontractor.

### **1.3 SUBMITTALS**

- A. The Contractor is to submit a list of all products to be utilized on this project, three copies of the manufactures' product specifications with performance and test data for each project, and material samples of any products that are specifically requested by the Authority.
- B. The Contractor is to also submit certification from each product manufacturer that their product complies with the requirements of this specification and are compatible with the intended end use.
- C. NOTE: The contractor's utilization of any roof covering system Manufacturer and / or material is subject to approval by the Authority.
1. The Contractor must submit their proposed Manufacturer for the new roof covering system to the Authority's Project Manager, prior to ordering / delivering any materials to the job site, or commencement of any work at the site.
  2. The Contractor must also submit a complete sample copy of the proposed Manufacturer's guarantee to the Authority's Project Manager for approval, prior to the Authority's approval of the proposed roof covering system Manufacturer.

- D. The Contractor is to submit a copy of all required permits for any portion of this project, including (but not limited to) building permits, crane permits, public access permits, road closure permits, torch/open flame permits, welding permits, Fire Marshal's permits, plumbing permits (for roof drain / plumbing work), mechanical permits, material disposal permits, bitumen hauling permits, asbestos abatement / disposal permits, asbestos-containing material transport / dump manifests, etc.
1. The required permits will be predetermined by the Authority, the Contractor, and the Engineer, and must be submitted to the Engineer for approval, prior to commencement of work. The contractor must also have full copies of all applicable permits at the job site, on the roof, at all times while Contractor personnel are present at the project site.
- E. The Contractor is to submit full copies of all Material Safety Data Sheets (MSDS) to the Authority (via the Engineer) and Maryland Risk Management, for all roofing materials, bitumen, other bitumen materials, solvent, thinners, primers, sealants, and other chemical products utilized on this project. MSDS must also be submitted for any materials that may release fumes, odors, or vapors when exposed to the atmosphere and / or heated.
1. The contractor must also have full copies of all applicable MSDS at the job site, on the roof, at all times while Contractor personnel are present at the project site.
- F. The Contractor must submit fully-executed copies of payment and performance bonds (if required in the Contract Documents), to the Authority, in a written form acceptable to the Authority. AIA Documents A-312 (1983 or later version) Payment and Performance Bonds are acceptable forms. The bonds must be fully executed, and submitted to the Authority prior to the Contractor's delivery of materials to the job site or commencement of the work at the site.
- G. The contractor is to submit a copy of their current license certification and /or applicator's agreement with the roof covering system Manufacturer.
- H. The contractor is to submit shop drawings of any construction detail (including work on known conditions and work on field conditions that may be uncovered or revealed during the project), if requested by the Authority Engineer.
- I. The Contractor and all Subcontractors must submit a bona fide Certificate of Liability Insurance coverage to Authority, via Engineer. The Insurance Certificate must guarantee insurance coverage for the minimum dollar amounts as indicated in the State Highway Administration bid/contract documents.
1. The contractor's (and all Subcontractors') Insurance Certificates must specifically name the Maryland Transportation Authority, as additional

insured.

2. Authority must receive written notice (via the Engineer) of any modification or cancellation of the Contractor's (or Subcontractor's) insurance policy(ies), at least 30 days prior to the effective date of any such modification or cancellation.
  3. The Contractor must endeavor to obtain additional insurance for this project if requested in written from the Authority, prior to commencement of work.
- J. The Contractor is to submit a proposed project schedule showing approximate dates of start and completion times. The Contractor must also submit any other items requested by the Engineer to help clarify of document certain conditions, if requested. The Contractor may be required to submit a revised project schedule, at the discretion of the Authority Engineer, if the Contractor's work operations vary from the submitted schedule.
- K. The Contractor is to provide all submittals to the Authority's Project Manager prior to delivery of any materials to the job site and prior to commencement of any work at the job site (particularly submittals for coatings, caulks, sealants, and sheet metal).
1. The Contractor is responsible for obtaining the Engineer's approval of all submittals prior to delivery of materials for commencement of work at the job site. Materials or procedures that are not approved are not to be used. Copies of all required insurance certificates, payment and performance bonds, permits, and MSDS must be submitted to the Engineer, no later than 5 calendar days after the Contractor's receipt of Notice to Proceed from Authority.
- L. All submittals, correspondence, and requisitions for payment must be properly sent in the name of the Owner, and must clearly list the project name and Contract Number. The Contractor is to send all submittals, correspondence, and requisitions for payment directly to the Procurement Office:
- Maryland Transportation Authority  
Engineering Division – Design  
Min Zheng  
300 Authority Drive  
Baltimore, MD 21222
- M. Prior to submitting the final payment requisition, the Contractor must submit the applicable release of liens in a written form acceptable to Authority.

#### 1.4 GUARANTEES/WARRANTIES

- A. Prior to submitting the final payment requisition, the Contractor must submit the roof membrane Manufacturer's 25-year guarantee of workmanship, labor, and materials, for the new roof covering system placed on this project. The Guarantee must cover all defects and deficiencies in workmanship and materials, for all components of the shingle roofing system including flashings, water and ice membrane down to the substrate and all metal components. The guarantee must specifically stipulate full coverage for the 25 year period, and no prorated warranty will be accepted. The guarantee must also stipulate and include full coverage of all costs associated with locating and repairing roof leaks. The Contractor must submit a sample copy of the (proposed) Manufacturer's guarantee to the Engineer and Authority for approval, prior to Authority final approval of the new roof covering system Manufacturer. The roof system manufacturer must provide the owner an annual inspection throughout the life of the warrantee period at "no additional cost" to Authority. This report will be complete with photographs and maintenance recommendations throughout the life of the warrantee. These additional services provided by the roof system manufacture shall be at "no additional cost" to Authority.
- B. Prior to submitting the final payment requisition, the Contractor must submit the Contractor's 5-year guarantee of workmanship, materials, and performance, including all roof installation work, membrane work, sheet metal work, flashing work, and all other work that I covered and/or not covered in the roof shingle Manufacturer's guarantee, in written form acceptable to Authority.
- C. Prior to submitting the final payment requisition, the Contractor is to confirm in writing to Authority the approval status of the Manufacturer's guarantee issuance, and a copy of the Manufacturer's punch list items for completion.
- D. Copies of all documents required of Section 1.04 Guarantees/Warranties, paragraphs 1.04.1 thru 1.04.3 shall be provided to the Authority Engineer, Facility Administrator, and Facilities Plant Manager prior to submitting the final payment requisition.

## **1.5 JOB CONDITIONS**

- A. The Contractor's and all Subcontractor's job site personnel must contact the Engineer each business day, no later than 7:30 A. M., to inform him/her of daily work progress, and to keep informed of activities and communicate information, even if no work is performed that day.
- B. Work is to proceed on all normal working days (Monday – Friday, excluding legal holidays, etc.), weather permitting, continuously from the commencement of the project through 100% completion.

1. Weekend and holiday work may be allowed if requested by the Contractor, in writing, 48 hours in advance; and approved by the Authority Project Manager.
- C. The Contractor is to provide signed, written report of daily progress, personnel on-site, and deliveries received, if requested by the Authority Project Manager.
- D. The Contractor must present at the job site during all project activities, including Subcontractor work and all other outside personnel such as material deliveries, equipment operators, manufacturer's representatives, etc. The Contractor must contact the Project Manager on all normal working days (when inclement weather prohibits roofing work) in order to ensure that the building is watertight.
- E. The Contractor and all Subcontractors must furnish all professionally-qualified (English Speaking) supervision to oversee all of their job site operations.
- F. The Contractor must provide written work tickets at the job site, on a daily basis, for any "extra" work, including all "time-and-materials" work, and all work performed on a "unit price" basis (INCLUDING ALL ALLOTMENTS OF "UNIT PRICE" WORK THAT ARE INCLUDED IN THE CONTRACT PRICE). The work tickets must be presented to the Project Manager and/or Representative, for signature upon acknowledgement of the work. Each work ticket must present complete information, including date, project, building address, Contract Number, Roof Area, type of work performed, quantities of materials used, and man/hours of labor, by work category. Copies of these work tickets must be submitted along with the Contractor's invoice for any "extra" work. Failure by the Contractor to provide daily work tickets may result in the Contractor not receiving payment for "extra" work.
- G. The Contractor must provide a portable toilet, and roof hoist and/or crane for all project operations.
- H. The Contractor must provide adequate dumpsters (or trash removal trucks) for the duration of the project for removal of all debris, as directed by the Engineer.
- I. All work is to be performed in compliance with all applicable building codes. It is the responsibility of the Contractor (and all Subcontractors) to obtain all necessary permits, inspections, etc. as required by Federal, state and local law for their part of the project work.
- J. The Contractor must fully cooperate with the Authority regarding location of vehicles, staging areas, equipment, stored materials, etc., on-site at all times, and the Contractor must take all necessary measures to avoid impeding the normal flow of traffic, access, egress, and work around the building on-site.

- K. The Contractor may be required to secure the roof in a safe/watertight condition, remove all vehicles and equipment from the premises, and/or vacate the premises, immediately upon notification from the Authority, during (or in preparation for) any weather-related (or other) emergency in the area (such as snow removal, snow/ice road treatment, major storm clean-up, or any other emergency situation), and the Contractor may not be allowed onto the premises until such emergency work by the Authority is completed. The Authority will not be responsible for any mobilization costs, labor costs, equipment stand-by time, travel time/expenses, lodging expenses, meals, etc., caused by an emergency situation as described in this paragraph.

#### **1.6 MATERIAL DELIVERY, HANDLING, AND STORAGE**

- A. All products and materials used must be newly manufactured, and of the best quality.
- B. Delivery all materials to the job site undamaged, in the manufacturers' original packaging. All materials must be clearly marked with the manufacturer's information, including the manufacturer's name, product name, ASTM codes where applicable, UL/FM labels, and date of manufacture.
- C. Upon approval, all materials are to be inspected for physical damage, freezing, or overheating. Questionable materials will not be allowed for use.
- D. All materials must be stored in dry areas, completely above the ground or roof surface (a minimum of 4 inches), on wood pallets or other acceptable means. Comply with all manufacturer's instructions regarding storage temperatures and exposure to sunlight. Protect all materials (including wood) from moisture contamination, including condensation (particularly membrane and felts), by completely covering materials to the base of the pallet with tarpaulins made of polyethylene, polypropylene, canvas, etc., drawn tightly and securely fastened. Factory wrappers alone are neither suitable nor acceptable protection for materials. Store all roll goods on end. Stack lumber and plywood in a way so as to prevent warping and twisting, and keep all wood properly covered. Protect all materials and equipment on the roof from wind damage/blow-off.
- E. Remove all damaged or moisture-contaminated products from the job site immediately.
- F. Do not load or store materials on the roof in amounts that can cause stress or damage to the existing roof covering or structure.
- G. Do not deliver or store materials on the ground in amount that can cause damage to the existing pavement or underground structures, storm sewers, piping, etc.

#### **1.7 WORK CONDITIONS**

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- A. The Contractor must investigate all stages of work to be performed, for all project areas. The contractor is responsible for investigating and inspecting the project, and for determining all quantities, measurements, dimensions, roof areas, and all other job site conditions. The contractor is to immediately inform the Engineer, in writing, of any unacceptable conditions, and is not to proceed with work until such conditions are made acceptable to MdTA, Contractor, and Engineer.
- B. Roofing work may proceed only in dry weather, when conditions comply with the manufacturer's recommendations and limitations. Roofing work may not proceed when the outside temperature is less than 40 degrees Fahrenheit, and materials may not be installed onto damp or frozen surfaces.
- C. The Contractor must not expose the roof deck or newly-installed materials to possible water or wind damage in greater amounts than can be properly completed and watertight in the same day.
- D. Phased construction will not be allowed on this project. Work must fully and continuously from commencement through completion, except on weekends, designated holidays, and during inclement weather.

#### **1.8 SAFETY AND PROTECTION**

- A. The Contractor must be entirely and totally responsible for all safety on the job site and project premises, and must comply with all applicable OSHA and MOSHA requirements, and good safety practices.
- B. The Contractor and all Subcontractors must provide all necessary safety equipment including (but not limited to) barricades, flags, signs, traffic cones, safety nails, fire hoses, fire extinguishers, and all other equipment needed to conduct safe operations on the roof, ground, and premises.
- C. The Contractor is to keep all areas of the project in a clean, neat, and orderly condition at all times. Trash and debris must be cleaned up and removed on a daily basis, particularly from all areas or levels lower than the roof (sidewalks, grounds, etc.).
- D. The Contractor is to install, maintain, and be responsible for the safe use of all scaffolding, platforms, ladders, etc. The Contractor is to provide all necessary scaffolding, work platforms, ladders, safety lines/harnesses, etc. for safe access to all work areas by all of the Contractor's (and Subcontractors') personnel on the project. The Contractor is to make certain that all ladders are properly secured (tied-off) at all times during roof construction.
- E. Protect exterior building surfaces against damage from the work operation and potential leakage. All ladders must be removed from the building at the end of

each day's work, and either secured at the job site or removed from the job site. Protect pavement, sidewalks and walls.

- F. Under no circumstances may materials or work be staged on newly-placed roofing. The work is to be logistically coordinated so that work and foot traffic over new roofing is avoided. This requirement will be strictly enforced. Materials, tools, and particularly gravel and debris must be kept off of the new roof membrane on a daily basis.

## **PART 2 - PRODUCTS**

**(Not Applicable)**

## **PART 3 - EXECUTION**

**(Not Applicable)**

## **PART 4 - MEASUREMENT AND PAYMENT**

### **4.1 GENERAL**

- A. All work complete in place as accepted by the Maryland Transportation Authority Engineer, will not be measured for payment, but costs thereof shall be included in the contract lump sum price bid.

**END OF SECTION 01010**

## SECTION 01330 – SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. General Provisions, Terms and Conditions, Special Provisions, Technical Specification Divisions 2 through 16, other Division 1 Specifications Sections and Drawings apply to this Section.
- B. Refer to Terms and Conditions TC 4.01 – Shop Plans and Working Drawings for additional requirements.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.
  - 1. Submittal Register Shall be Submitted Prior to the Notice to Proceed, the Contractor shall submit a complete submittal register to the Engineer for review and approval. This submittal register shall be developed in Microsoft Excel and an electronic copy shall be submitted to the MdTA Project Manager. The submittal register shall include related specification section and article number, submittal number, product description, anticipated date to be submitted, and actual date submitted. The Contractor shall be responsible to update the submittal register continuously and submit a copy to the MdTA Project Manager monthly. The updated submittal register will be reviewed and discussed at the Monthly Schedule Update Meeting.
  - 2. Pre-Submittal Meeting within 21 days after receipt of Notice to Proceed, the Contractor shall arrange a pre-submittal meeting with the MdTA Project Manager. The meeting will discuss the content of the submittal register as well as the requirements for acceptable submittals. The meeting shall be attended by the Contractors Project Manager, Project Engineer and Architect, Site Superintendent, Project Scheduler, and Critical Subcontractor Project Managers. Meeting minutes will be developed by the MdTA Project Manager.

#### 1.3 DEFINITIONS

- A. Informational Submittals: Written information that does not require Architect/Engineer or MDTA Project Manager's approval. Submittals may be rejected for not complying with requirements of applicable sections.

#### 1.4 SUBMITTAL PROCEDURES

- A. General: Contractor may assume that one electronic copy of CAD Drawings of the Contract Drawings will be provided by the MdTA for Contractor's use in preparing submittals.
- B. Product Warranty Submittals: Product Warranties shall be submitted with the technical submittals. Failure to submit the product warranty with the technical submittal shall be cause for the entire technical submittal to be rejected.
- C. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
  - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  - 2. Coordinate transmittal of different types of submittals for related parts of the work so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. Architect/Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- D. Submittals Schedule: Comply with requirements CPM Schedule for list of submittals and time requirements for scheduled performance of related construction activities.
- E. Processing Time: Refer to Standard Provisions for processing time.
  - 1. Number of Samples for Initial Selection: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect/Engineer will return submittal with options selected.
- F. Identifications: Place a permanent label or title block on each submittal for identification.
  - 1. Indicate name of firm or entity that prepared each submittal on label or title block.
  - 2. Provide a space approximately 4 by 5 inches on label or beside title block to record contractor's review and approval markings and action taken by the Architect/Engineer.
  - 3. Include the following information on label for processing and recording action taken:

- a. Project Name
  - b. Date
  - c. Name and address of Engineer
  - d. Name and address of Contractor
  - e. Name and address of Subcontractor
  - f. Name and address of Supplier
  - g. Name of Manufacturer
  - h. Unique identifier, including revision number
  - i. Number and title of appropriate Specification Section
  - j. Drawing number and detail references, as appropriate
  - k. Other necessary identification.
- G. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. The MDTA Project Manager will return submittals without review received from sources other than Contractor.
1. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.
  2. Transmittal Form: Provide locations on contractor's typical transmittal form for the following information:
    - a. Project Name
    - b. Date
    - c. Destination (To)
    - d. Source (From)
    - e. Names of subcontractor, manufacturer, and supplier
    - f. Category and type of submittal
    - g. Submittal purpose and description
    - h. Submittal and transmittal distribution record
    - i. Remarks
- H. Use for Construction: Use only final submittals with mark indicating action taken by Engineer in connection with construction.

## PART 2 - PRODUCTS

## 2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
1. Number of copies: Submit to MDTA Project Manager seven copies of each submittal, unless otherwise indicated. The MDTA Project Manager will return four copies. Mark up and retain one returned copy as a Project Record Document.
- B. Product Data. Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
  2. Mark each copy of each submittal to show which products and options are applicable.
  3. Include the following information, as applicable;
    - a. Manufacturer's written recommendations.
    - b. Manufacturer's product specifications.
    - c. Manufacturer's installation instructions.
    - d. Standard color charts.
    - e. Manufacturer's catalog cuts.
    - f. Wiring diagrams showing factory-installed wiring.
    - g. Printed performance curves.
    - h. Operational range diagrams.
    - i. Mill reports.
    - j. Standard product operating and maintenance manuals.
    - k. Compliance with recognized trade association standards.
    - l. Compliance with recognized testing agency standards.
    - m. Application of testing agency labels and seals.
    - n. Notation of coordination requirements.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Include the following information, as applicable:
    - a. Dimensions.
    - b. Identification of products.
    - c. Fabrication and installation drawings
    - d. Roughing-in and setting diagrams.
    - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
    - f. Shopwork manufacturing instructions.
    - g. Templates and patterns.
    - h. Schedules.
    - i. Design calculations
    - j. Compliance with specified standards
    - k. Notation of coordination requirements
    - l. Notation of dimensions established by field measurement.
  2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
  3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 24 by 36 inches.
  4. Number of Copies: Submit copies of each submittal, as follows: Submit to MDTA Project Manager seven copies of each submittal, unless otherwise indicated. The MDTA Project Manager will return four copies. Mark up and retain one returned copy a Project Record Document.
- D. Coordination Drawings: Refer to Technical Provisions – General Information for requirements associated with Coordination Drawings”
- E. Samples: Prepare physical units of materials or products, including the following:
1. Comply with requirements in Division 1 Section 1400 “Quality Requirements” for mockups.
  2. Samples for Initial Selection: Submit manufacturer’s color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

3. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials, complete units of repetitively used materials; swatches showing color, texture, and pattern' color range sets; and components used for independent testing and inspection.
4. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Engineer's same where so indicated. Attach label on unexposed side that includes the following:
  - a. Generic description of Sample.
  - b. Product name or name of manufacturer.
  - c. Sample source.

### **PART 3 - EXECUTION**

#### **3.1 CONTRACTOR'S REVIEW**

- A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to the Engineer.
- B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents

**END OF SECTION 01330**

**065**

## **SECTION 02072 – REMOVAL OF EXISTING ASPHALT SHINGLE ROOFING SYSTEM**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. This Section includes:
  - 1. Removal of the existing shingle roof, underlayment felts, flashing, and drip edge, etc. as indicated.
  - 2. Disposal of materials.

#### **1.3 MATERIAL OWNERSHIP**

- A. Demolished and removed materials shall become Contractor's property and shall be removed from project site or State property. The Owner will not be responsible for illegal dumping of any debris removed from this site or any asbestos handling as a result of this project.

#### **1.4 SUBMITTALS**

- A. Schedule indicating proposed sequence of operations for selective demolition work to owner's Representative for review prior to start of work.
- B. Photographs of existing conditions of structure surfaces that might be misconstrued as damage related to removal operations. File with owner's Representative prior to start of work.

#### **1.5 JOB CONDITIONS**

- A. Maintain access to existing walkways, corridors and other adjacent used facilities.  
  
Do not close or obstruct walkway or other used facilities without written permission from the owner.
- B. Owner assumes no responsibility for actual condition of areas to be demolished.

- C. Storage or sale of removed items or materials on site is not permitted.
- D. Contractor shall be responsible for all damages to the Owners property resulting from the Contractors work, including damages resulting from weather conditions. Promptly repair damages caused to adjacent facilities by demolition work at no additional cost.
- E. In the event of an unpredicted event of precipitation, the Contractor shall keep tarps, or the like on hand at all times while work is in progress under this contract to be used to protect the Owners property from damages in the event of precipitation.

## **PART 2 - PRODUCTS**

**(NOT APPLICABLE)**

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Temporary facilities: Provide temporary barricades and other protection required in order to prevent injury to people and damage to adjacent facilities.
- B. Protect existing roof deck from damage during the removal of the shingle roof.

### **3.2 DEMOLITION**

- A. Demolish in a systematic and careful manner. Protect existing supporting structural members. Locate demolition equipment throughout structure and promptly remove debris to avoid imposing excessive loads on supporting walls or framing.

### **3.3 CLEANUP AND REPAIR**

- A. General: upon completion of demolition work, remove tools, equipment, and demolished materials from site. Remove protections and leave areas in clean condition. Remove from building site debris, rubbish, and other materials resulting from demolition operations. Transport and legally dispose off site
  - 1. Repair demolition performed in excess of that required. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

## **PART 4 - MEASUREMENT AND PAYMENT**

**4.1 GENERAL**

- A. All work complete in place as accepted by the Maryland Transportation Authority Engineer, will not be measured for payment, but costs thereof shall be included in the contract lump sum price bid.

**END OF SECTION 02072**

## **SECTION 06100 -- ROUGH CARPENTRY AND ROOF SHEATHING**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions for the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### **1.2 RELATED SECTION**

- A. Section 07310 - Shingle Roofing
- B. Section 07600 - Flashing and Sheet Metal

#### **1.3 SUMMARY**

- A. This Section includes the following:
  - 1. Wood blocking, nailers and miscellaneous wood framing.
  - 2. Plywood Sheathing.

#### **1.4 QUALITY ASSURANCE:**

- A. Comply with governing codes and regulations. Use experienced installer.
- B. Factory Marking: Mark each piece of lumber and plywood with type, grade, mill and agency providing inspection service.

#### **1.5 SUBMITTALS**

- A. Product data for each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
  - 1. For each type of pressure treatment, include certification by treating plant stating type of preservative chemicals and pressure process used, net amount of preservative retained, and conformance with applicable standards.
  - 2. For water-borne preservatives, include statement that moisture content of treated materials was reduced to levels indicated prior of shipment to Project Site.

3. Include certification by treating plant that fire-retardant treatment material complies with specified standard and other requirements.

## **1.6 DELIVERY, STORAGE AND HANDLING**

- A. Time delivery and installation of the carpentry work to avoid delaying other trades whose work is dependent on or affected by the carpentry work. Keep materials dry during delivery.
- B. Store lumber and plywood in stacks with provisions for air circulation within stacks. Protect bottom of stacks against contact with damp or wet surfaces.
- C. Protect exposed materials against water and wind. Remove damaged or unsuitable materials from the job site.

## **PART 2 - PRODUCTS**

### **2.1 WOOD PRODUCTS, GENERAL**

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable of any rules-written agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
  1. Factory marked each piece of lumber with grade stamp of grading agency.
  2. Where nominal sized are indicated, provide actual sized required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.

### **2.2 LUMBER**

- A. All lumber shall be graded and grade-marked as specified and shall comply with the latest grading rules of the association under whose rules the material was produced. In the event Contractor wishes to use lumber of other species or grades, he shall submit pertinent data to the Authority prior to placing orders.
- B. Construction Lumber: Standard Grade Douglas Fir, Western Larch, western Hemlock (WWPA or WCLB) or No.2 dimension Southern Pine (SPIB).
- C. Plywood Roof Sheathing: Exterior tongue, APA Rated Sheathing, comply with DOC PS1/ANSI A199.1 or latest APA performance Standards for American Plywood Association.
  1. Span: 16 inch (408 mm).

2. Nominal Thickness: 5/8 inch (17 mm).
- D. Bucks, Nailers, Blocking, ETC.: No. 2 common grade of any WWPA or WCLA species or No. 2 Southern Pine (SPIB).
  - E. Anchorage and Fasteners: Proper type, size, materials and finish for each applications.
  - F. Quality: Sound, seasoned, well manufactured materials of longest practical lengths and sizes to minimize joints. Free from warp which cannot be easily corrected by anchoring and attachment. Discard materials with defect which would impair quality of work.

### **2.3 PRESERVATIVE TREATMENT**

- A. Where lumber or plywood is indicated as "treated", or is specified herein to be treated, comply with applicable requirements of AWWPA Standards C2 (Lumber) and C9 (Plywood) and of AWPB Standards listed below. Mark each treated item with the AWPB Quality Mark Requirements.
  1. Pressure-treat above-ground items with water-borne preservatives to comply with AWPB LP-2. After treatment, kiln-dry lumber and plywood to a maximum moisture content, respectively, of 19 percent and 15 percent.
  2. Complete fabrication of treated items prior to treatment, where possible. If cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment and to comply with AWWPA M4. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Verify measurements and dimensions shown before proceeding with carpentry work. All perimeter drip edge will have new wood nailers installed as per the details provided.
- B. Examine supporting structure and conditions under which carpentry work is to be installed. Do not proceed with installation until unsatisfactory conditions have been corrected.
- C. Correlate location of nailers, blocking and similar supports for attached work.
- D. Scribe and cope as required for accurate fit of carpentry work to other work.

### **3.2 INSTALLATION**

- A. Set carpentry work accurately to required levels and lines, with members plumb and true and accurately cut and fitted. Discard units of material with defects which might impair quality of work, and units which are too small to use in fabricating work with minimum joints or optimum joint arrangement.
  - 1. All deteriorated nailers, blocking and similar supports should be replaced. Provide new nailers, blocking and similar supports where shown on the drawings or required for attachment of other work.
  - 2. Securely attach carpentry work to substrate as required by recognized standards. Countersink nail heads on exposed carpentry work and fill holes.
  - 3. Use common wire nails, except as otherwise indicated. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.
  
- B. Plywood installation on the existing deck shall be 5/8 inch and in accordance with GAF recommended substrate standards. It shall be fastened 6 inches on center along the edges and 12 inches on center towards the center with 2 inches concrete penetrating fasteners.
  - 1. All deteriorated and wet sheathing shall be replaced as indicated by the roof system manufacture and owners representative. All areas identified on drawings and reviewed at pre-bid will be replaced with new wood sheathing.
  - 2. Deck replacement shall be from truss to truss and shall be full sheets. These areas will be inspected by the MdTA engineer and roof system manufacture.

## **PART 4 - MEASUREMENT AND PAYMENT**

### **4.1 GENERAL**

- A. All work complete in place as accepted by the Maryland Transportation Authority Engineer, will not be measured for payment, but costs thereof shall be included in the contract lump sum price bid.

**END OF SECTION 06100**

## **SECTION 07310 - ASPHALT SHINGLES**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Section, apply to this Section.

#### **1.2 RELATED SECTION**

- A. Section 06100 – Rough Carpentry and Roof Sheathing
- B. Section 07600 – Flashing and Sheet Metal

#### **1.3 SUMMARY**

- A. This Section includes the following:
  - 1. Asphalt shingles.
  - 2. Roofing underlayment.

#### **1.4 SUBMITTALS**

- A. Product Data: Contractor shall provide Owner with product data and samples for each manufactured material and product specified herein. Product data includes product specifications, installation instructions, maintenance instructions, and general recommendations by the manufacturer covering each material required for the roofing work. These materials shall be reviewed and discussed at a pre construction meeting.
- B. Qualification Data: For Installer, including certificate signed by asphalt shingle manufacturer stating that Installer is proved, authorized, or licensed to install roofing system indicated.
- C. Warranties: Special warranties specified in this Section.
- D. Samples for Selection: Submit material samples, two each, including the available color chart to the Engineer for color selection.

#### **1.5 QUALITY ASSURANCE**

- A. **Installer Qualifications:** A firm or individual that is approved, authorized, or licensed by asphalt shingle roofing system manufacturer to install roofing system indicated.
- B. **Source Limitations:** Obtain shingle through one source from a single asphalt shingle manufacturer.
- C. **Fire-Test-Response Characteristics:** Provide asphalt shingle and related roofing materials with the fire-test-response characteristic indicated, as determined by testing identical products per test method below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
  - 1. **Exterior-Fire-Test exposure:** Class A; ASTM E 108 or UL 790, for application and roof slope indicated.

#### **1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver roofing materials in manufacturer's standard unopened package and containers, and comply with manufacturer's instructions for storage and handling.
- B. Store roofing materials in a dry, well-ventilated, weathertight location according to asphalt shingle manufacturer's written instructions. Store underlayment rolls on end on pallet or other raised surfaces. Do not double-stack rolls.
  - 1. Only roof shingles may be stored on the roof of each building to be re-roofed. Shingles must be set on the roof to evenly distribute the weight of the shingles across the roof. All other materials must be stored in storage trailers or the like, in a location approved by the Owner.
  - 2. Handle, store, and place roofing materials in a manner to avoid significant or permanent damage to roof deck or structural supporting members.
- C. Protect unused underlayment from weather, sunlight, and moisture when left overnight or when roofing work is in progress.

#### **1.7 PROJECT CONDITIONS**

- A. **Weather Limitations:** Proceed with installation only when existing and forecasted weather conditions permit asphalt shingle roofing to be performed according to manufacturer's written instructions and warranty requirements.

#### **1.8 WARRANTY**

- A. **Special Warranty:** Manufacturer's standard form in which manufacturer agrees to furnish replacement shingles or refund pro-rata portion of amount originally

paid for shingles that fail due to original product defects within 25 years from date of Substantial Completion. Failures include, but are not limited to, leaks or deformation or deterioration of asphalt shingles beyond normal weathering. All underlayment, self adhering ice & water shield, and all metal components shall be manufactured by one (1) manufacture. In addition to the manufacturer's warranty, the Contractor shall provide a (5) five- year warranty to guarantee his work against any defect in workmanship.

- B. Manufacture shall provide the owner annual inspections for the life of the warranty period on all low sloped roof areas, this manufacture will provide inspections on the shingle roof system at no additional cost to the owner.

## **PART 2 - PRODUCTS**

### **2.1 ASPHALT SHINGLES – 25 YEAR ARCHITECTURAL SHINGLE**

- A. Standard Architectural – Asphalt\fiberglass
  - UL Class A Fire rating
  - ASTM D3462
  - Wind Resistance: Passes requirements in ASTM D 3161.
- B. Colors, Blends, and Patterns: Contractor shall match samples as selected by the owner from manufacturer's full color sample range. All shingles must have the same lot number. Color to be chosen by Owner.
- C. Fungus Resistance: Provide asphalt shingles surface treated to remain free of fungus and algae growth, which adversely affects appearance of roof, for at least (5) five years.

Ridge Shingles: Factory-precut matching asphalt shingles.

### **2.2 FLASHING AND DRIP EDGE MATERIAL**

- A. Complying with requirements in Division 7 Section "Flashing and Sheet Metal".
  - 1. Aluminum: Alloy 3003-H14 with mill finish, minimum 0.024 inch thick, unless otherwise indicated. Color as approved by the Owner.

### **2.3 ACCESSORIES**

- A. Ice and Water Shield: Fully adhered, SBS modified self adhering underlayment – Manufactured by the same manufacturer as all metal components of the roof system. Ice and water shield shall be installed over the entire substrate throughout the entire building.

1. Ice and Water Shield underlayment manufacturer must make daily progress inspections of the entire project and provide the Owner with a digital photographic record / report at the conclusion of the project. Underlayment manufacturer must inspect the entire project including the shingle installation and the flashing and sheet metal installation.
- B. Ridge Vent: High-density polypropylene, nonwoven modified polyester, or other UV-stabilized plastic designed to be installed under asphalt shingles at ridge.
  1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Air Vent, Inc.; Ridge Filtervent
    - b. GAF Building Materials Corporation; Cobra Ridge Vent.
    - c. Certaineed
- C. Asphalt Plastic Cement: Asbestos free fibrated asphalt cement.
- D. Nails: Aluminum or hot-dip galvanized steel, 0.120-inch- (3-mm-) diameter, barbed shank, sharp-pointed, conventional roofing nails with minimum 3/8-inch- (9.5-mm-) diameter head and of sufficient length to penetrate 3/4 inch (19 mm) into solid decking or at least 1/8 inch (3 mm) through plywood sheathing.
  1. Where nails are in contact with flashing, prevent galvanic action by providing nails made from the same metal as that of flashing.

### **PART 3 - EXECUTION**

#### **3.1 PREPARATION**

- A. Comply with the roofing manufacturer's instructions for the preparation of the substrate.
- B. Roof deck must be approved by the Owner prior to the installation of the new roof system. Specified screws shall be used to mechanically attach the new decking.
- C. Clean substrates of projections and substances detrimental to application. Cover knotholes or other minor voids in substrate with sheet metal flashing secured with noncorrosive roofing nails.
- D. Coordinate installation with flashings and other adjoining work to ensure proper sequencing. Do not install roofing materials until all penetrations through roof sheathing have been installed and are securely fastened against movement.

- E. Proper protection shall be provided to protect the landscaping, exterior of the building, and surrounding areas.

### 3.2 INSTALLATION

- A. General: Comply with manufacturer's written instructions and recommendations.
  - 1. Proceed with installing asphalt shingles only when existing and forecasted weather conditions will permit work to be performed according to manufacturers' written recommendations and warranty requirements, and when substrate is completely dry.
  - 2. Fasten asphalt shingles to roof sheathing with non-corrosive roofing nails.
- B. Ice and Water Shield Underlayment installed in lieu of felt application under all shingles: Apply 1 layer of SBS Self Adhering underlayment horizontally over entire surface to receive asphalt shingles, lapping succeeding courses minimum of 4 inches (50 mm), end laps minimum of 4 inches (100 mm), and hips and valleys minimum of 6 inches (150 mm). Secure Underlayment with sufficient number of fasteners to hold underlayment in place until asphalt shingle installation.
  - 1. Apply SBS self adhering ice and water shield underlayment on roof decks with slope of 2 to 4 inches per foot or less.
- C. Additional Layer of SBS Underlayment: Apply another layer of self adhering SBS underlayment at all valleys, eaves and roofs abutting to sidewalls. Cover roof deck from eaves to at least 24 inches (600 mm) inside exterior wall line. SBS underlayment shall be installed and properly terminated on all unusual vertical flashing areas and under any low siding of adjoining buildings.
- D. Flashing and Drip Edge: Install metal flashing and drip edge as in accordance with standard practices and procedures commonly used in the roofing industry, and in ARMA's "Residential Asphalt Roofing Manual". Drip edge shall be installed at on all rake boards.
- E. Install asphalt shingles, beginning at roof's lower edge, with starter strip of roll roofing or inverted asphalt shingles with tabs removed. Fasten asphalt shingles in desired weather exposure pattern; use number of fasteners per shingle as recommended by manufacturer. Use vertical and horizontal chalk lines to ensure straight coursing.
  - 1. Cut and fit asphalt shingles at ridges, and edges to provide maximum weather protection. Provide same weather exposure at ridges as specified for roof. Lap asphalt shingles at ridges to shed water away from direction of prevailing wind.

2. Use fasteners at ridges of sufficient length to penetrate sheathing as specified.
  3. Coordinate pattern selected with type of shingle specified.
  4. Pattern: 1/2 shingle spacing offset at succeeding courses or to match existing profile of the existing buildings at the property.
  5. Shingle sealing must be enhanced by hand sealing. After fastening the shingle in place, apply 1 quarter-sized dab of shingle adhesive for proper wind resistance. The shingle must be pressed firmly into the adhesive.
- F. Ridge Vents: Install according to manufacturer's written instructions. Ridge vents shall be pre-manufactured with shingle tie-ins to the match the roof shingles.
- G. Clean Up:
1. The job site must be maintained in a clean, safe and orderly fashion at all times while work is in progress under this contract. All construction debris shall be removed and disposed daily.
  2. The Contractor shall be responsible to pay for all damages including but not limited to damaged landscaping, turf, any vehicle, etc. resulting from his work under this contract.

### **3.3 FINAL INSPECTION**

- A. A final inspection shall be performed by the Owner, Owners Representative and the contractor. Any items inspected and found shall be corrected by the Contractor immediately. Prior to final payment, the manufacturers 25 year warranty shall be submitted to the Owner. The underlayment manufacturer must approve the final installation and provide the final digital photographic report to the Owner prior to final payment being released.

## **PART 4 - MEASUREMENT AND PAYMENT**

### **4.1 GENERAL**

- A. All work complete in place as accepted by the Maryland Transportation Authority Engineer, will not be measured for payment, but costs thereof shall be included in the contract lump sum price bid.

**END OF SECTION 07310**

## SECTION 07600 - FLASHING AND SHEET METAL

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawing and general provisions of the Contract, including General Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the work to provide all labor, equipment, and materials fabricate and install the metal flashing and drip edge.

#### 1.3 RELATED SECTIONS

- A. Section 06100 – Rough Carpentry and Roof Sheathing
- B. Section 07310 – Asphalt Shingles

#### 1.4 REFERENCES

ASTM A-446	Specification for Steel Sheet
ASTM B-209	Specification for Aluminum Sheet
ASTM B-221	Specification for Aluminum Extruded Shape
FS QQ-L-201	Specification for Lead Sheet
ASTM A792	Steel Sheet, Aluminum-Zinc Alloy-Coated, by the Hot-Dip Process
ASTM B32	Solder Metal
ASTM B209	Aluminum and Alloy Sheet and Plate
ASTM B486	Paste Solder
ASTM D226	Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
ASTM D486	Asphalt Roof Cement, Asbestos-free
FS O-F-506	Flux, Soldering, Paste and Liquid
WH	Warnock Hersey International, Inc. Middleton, WI.
FM	Loss Prevention Data Sheet
NRCA	National Roofing Contractors Association - Roofing Manual
SMACNA	Architectural Sheet Metal Manual

#### 1.5 SUBMITTALS

- A. Submit under provisions of all technical performance criteria set forth in the specifications.

- B. Product Data: Provide manufacturer's specification data sheets for each product in accordance with Section 07600.
- C. Provide approval letters from metal manufacturer for use of their metal within this particular roofing system type.
- D. Submit two samples, 12 x 12 inch in size illustrating typical external corner, junction to vertical dissimilar surface, material and finish.
- E. Shop Drawings
  - 1. Shop drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashing, termination's, and installation details.
  - 2. Indicate type, gauge and finish of metal.
- F. Certification
  - 1. Submit roof manufacturer's certification that metal fasteners furnished are acceptable to roof manufacturer.
  - 2. Submit roof manufacturer's certification that metal furnished is acceptable to roofing manufacturer as a component of roofing system and is eligible for roof manufacturer's system warranty.
  - 3. Submit certification that metal and fastening system furnished is Tested and Approved by Factory Mutual for I-90 Wind Up-Lift Requirements.
- G. Manufacturer's Product Data
  - 1. Metal material characteristics and installation recommendations.
  - 2. Submit color chart prior to material ordering and/or fabrication so that equivalent colors to those specified can be approved.

## 1.6 QUALITY ASSURANCE

- A. Reference Standards
  - 1. Comply with details and recommendations of SMACNA Manual for workmanship, methods of joining, anchorage, provisions for expansion, etc.
  - 2. Factory Mutual Loss Prevention Data Sheet 1-49 windstorm resistance 1-90.
- B. Manufacturer's Warranty

1. Pre-finished metal material shall require a written 25-year non-prorated warranty covering fade, chalking and film integrity. The material shall not show a color change greater than 5 NBS color units per ASTM D-2244 or chalking excess of 8 units per ASTM D-659. If either occurs material shall be replaced per warranty, at no cost to the Owner.

C. Contractor's Warranty

1. The Contractor shall provide the Owner with a notarized written warranty assuring that all sheet metal work including caulking and fasteners to be watertight and secure for a period of two years from the date of final acceptance of the building. Warranty shall include all materials and workmanship required to repair any leaks that develop, and make good any damage to other work or equipment caused by such leaks or the repairs thereof.

**1.7 QUALIFICATIONS**

- A. Fabricator and Installer: Company specializing in sheet metal flashing work with (5) five years experience.

**1.8 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver materials in manufacturer's original, unopened containers or packages with labels intact and legible.
- B. Stack pre-formed and pre-finished material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- C. Prevent contact with materials which may cause discoloration or staining.

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. Metal system is to be comprised of minimum Aluminum or Galvalume steel, coated on both sides with an epoxy primer and on the weathering surface with a polyvinylidene fluoride or siliconized polyester baked organic coated finish.

1. Materials

- a. Aluminum-Zinc alloy Coated Steel:

Aluminum-zinc alloy (galvalume) coated steel, ASTM A792, coating designation AZ-50, in thickness of .0217 nom. /24 gauge

\*Subject to minimum quantity requirements

\*Standard Kynar 500 finish coating is only accepted.

b. Colors shall be as specified and chosen by the Owner/Architect.

B. Miscellaneous Metals and Flashings:

1. Zinc-Coated Steel Sheet: ASTM A526, 0.20% copper, 26 gage (0.0179"); designation G90 hot-dip galvanized, mill phosphatized.
2. Stainless Steel Sheet: Type 302/304, ASTM A167, 28 gage, (0.015"), annealed except dead soft where fully concealed by other work, 2D (dull) finish.
3. Copper Sheet: ASTM B370, 16 oz. (0.0216), temper H00 (cold-rolled).
4. Lead-Coated Copper Sheet: ASTM B101. Type I, Class A (12-15 1 lb. of lead coating per 100 sq. ft.), 17.1 oz. (0.022").
5. Zinc Alloy Sheet: Zinc with 0.6% copper and 0.14% titanium; 0.27" thick (21 gage); standard (soft) temper, mil finish.

**2.2 RELATED MATERIALS**

- A. Metal Primer: Zinc chromate type.
- B. Plastic Cement: ASTM D 4586
- C. Sealant: Specified in Section 07900 or on drawings.
- D. Lead: Meets Federal Specification QQ-L-201, Grade B, four pounds per square foot.
- E. Solder: ANSI/ASTM B32; 95/05 type.
- F. Flux: FS O-F-506.
- G. Underlayment: SBS Underlayment
- H. Slip Sheet: Rosin sized building paper.
- I. Fasteners:
  1. Corrosion resistant screw fastener as recommended by metal manufacturer. Finish exposed fasteners same as flashing metal.
  2. Fastening shall conform to Factory Mutual I-90 requirements or as stated on section details, whichever is more stringent.

**PART 3 - EXECUTION**

### **3.1 PROTECTION**

- A. Protect contact areas of dissimilar metals with heavy asphalt or other approved coating, specifically made to stop electrolytic action.

### **3.2 GENERAL**

- A. Install work watertight, without waves, warps, buckles, fastening stress, or distortion, allowing for expansion and contraction.
- B. Fastening of metal to walls and wood blocking shall comply with SMACNA Architectural Sheet Metal Manual, Factory Mutual I-90 wind uplift specifications and/or manufacturer's recommendations whichever is of the highest standard.
- C. All accessories or other items essential to the completeness of sheet metal installation, whether specifically indicated or not, shall be provided and of the same material as item to which applied.

### **3.3 INSPECTION**

- A. Verify membrane termination and base flashings are in place, sealed, and secure.
- B. Beginning of installation means acceptance of existing conditions.
- C. Field measure site conditions prior to fabricating work.

### **3.4 MANUFACTURED SHEET METAL SYSTEMS**

- A. Installing Contractor shall be responsible for determining if the sheet metal systems are in general conformance with roof manufacturer's recommendations.
- B. Furnish and install manufactured sheet metal systems in strict accordance with manufacturer's printed instructions.
- C. Provide all factory-fabricated accessories.

### **3.5 SHOP FABRICATED SHEET METAL**

- A. Installing Contractor shall be responsible for determining if the sheet metal systems are in general conformance with roof manufacturer's recommendations.
- B. Metal work shall be shop fabricated to configurations and forms in accordance with recognized sheet metal practices.
- C. Hem exposed edges.
- D. Angle bottom edges of exposed vertical surfaces to form drip.

- E. All corners for sheet metal shall be lapped with adjoining pieces fastened and set in sealant.
- F. Install sheet metal to comply with Architectural Sheet Metal manual, Sheet Metal and Air Conditioning Contractor's National Associations, Inc.

### **3.6 CLEANING AND PROTECTION**

- A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.
- B. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain in a clean condition during construction.
- C. Replace sheet metal flashing that has been damaged or that deteriorated beyond successful repair by finish touchup or similar minor repair procedures.
- D. Protection: Advise Contractor of required procedures for surveillance and protection of flashing and sheet metal work during construction to ensure that work will be without damage or deterioration other than natural weathering at time of completion.

## **PART 4 - MEASUREMENT AND PAYMENT**

### **4.1 GENERAL**

- A. All work complete in place as accepted by the Maryland Transportation Authority Engineer, will not be measured for payment, but costs thereof shall be included in the contract lump sum price bid.

**END OF SECTION 07600**